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THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

"THE CULTIVATOR ALMANAC."

THE publisher of "The Cultivator" will issue, early in September, "*The Cultivator Almanac, or Rural Calendar for* 1844," which will embody, beside the usual astronomical calculations, a great variety of facts, hints, suggestions, &c., which it is believed will prove extensively useful to farmers and planters. In the arrangement of its pages, utility has been the object kept in view—the condensation of the greatest amount of valuable matter into the smallest space. It will be illustrated by numerous engravings, and printed in a neat and tasteful style, and afforded at the low price of $20 per 1,000—$2.50 per 100, or 37½ cents per dozen. Editions will be published with astronomical calculations for the several sections of the United States, and orders for it are solicited from our friends in all parts of the country. Address LUTHER TUCKER, publisher of the Cultivator, Albany, N. Y.

MONTHLY NOTICES.

COMMUNICATIONS have come to hand, since our last, from Richmond, (2,) J. L. Mott, A. J. Downing, Franklin County, G. Butler, Henry Colman, North East, J. W. Smith, A. P. Peck, Wm. Weaver, L. Durand, N. B. Cloud, J. J. T., J. E. Ferre, A Saratoga Co. Farmer, R. A. Avery, Sanford Howard, H. T. C., L. Bostwick,*†, N., Richmond, C. N. Bement, A Subscriber, M. W. Phillips, Thomas Thompson, H. A. Garrett, N. N. D., J. R. Speed, Lansingville, J. M. Harlan, A. E. Cowles.

N. N. D.'s favor came too late for this paper. We shall therefore forward it to the chairman of the Com. on Plows, that the committee may have the benefit of his experience and suggestions.

A. B. N. and *A Subscriber*, with answers to their inquiries, in our next.

J. R. S. and *H. A. G.*—The *Western Shepherd*, by Geo. Flower, was printed at New Harmony, Indiana, and has never to our knowledge been on sale in this part of the country. We believe Mr. Flower resides at Albion, Edwards co., Illinois. It may probably be obtained by addressing him at that place.

W. D. M., Tuscaloosa.—Smith's subsoil plow is not manufactured in this country. The Worcester subsoil plow, described at p. 49 of our current vol., is for sale in this city—price $15.

C. J. R., Long Island:—Please send us the "Calendar," in as concise a form as may be.

☞ We will endeavor to comply with the request of a *Subscriber*, Marietta, by giving the ground plans, expense, &c. of Cottage Row.

T. M., jr., Erie, Pa.—Collect the bill in the funds mentioned.

ACKNOWLEDGMENTS.—We are very greatly indebted to Mr. COLMAN, W. W. WADSWORTH of Geneseo, (now traveling in Europe,) P. L. SIMMONDS, Foreign Newspaper Agent, London, and to the EDITORS of the *New Farmer's Journal* and the *Mark Lane Express*, for papers containing copious accounts of the great Cattle Show of the Royal Ag. Society at Derby. The *Pictorial Times*, received from Mr. Simmonds, furnishes us with pictorial representations of the Council Dinner, the Mayor's Dinner, and the grand Agricultural Dinner, at which 2,000 gentlemen, and 500 ladies, (in a gallery fitted up for their use,) were present—three different views of the Cattle Yard, and views of the Grand Pavilion and of the Trial of Implements. We are also indebted to Mr. COLMAN for the notes of his speech at the Council Dinner, which will be found in another part of this paper, and to Mr. SIMMONDS, for Denton's Treatise on "Model Mapping, as suggestive of a general and economical system of Drainage and Irrigation"—Baldwin's Treatise on the "Cultivation and Uses of the Swedish Turnep," and for several pamphlets, showbills, advertisements, &c.

To the AUTHOR, for "The Every Day Book," by Joel Munsell.

To the Rev. E. G. SMITH, the translator, for "The Economy of Farming."

To D. APPLETON & Co. and WILEY & PUTNAM, for their editions of "Productive Farming," and to the latter firm for Prof. Johnston's Lectures, Parts I, II, III, and the Appendix.

To H. T. CHAPMAN, Esq., New-York, for a cock and pair of pullets of the Dorking breed. They are fine birds, and were raised from a lot imported by Mr. C. two years since. Gentlemen wishing to procure this excellent breed of fowls, can obtain them by addressing Mr. C. No. 77 Fulton st. New-York—price $4,00 per pair.

To THOMAS ALLEN, Esq., formerly editor of the Madisonian, for the Prize List of the St. Louis Co. (Mo.) Ag. Society.

To L. DURAND, for the New-Haven Palladium, containing a communication of Erastus Dudley of North Guilford, (Ct.) on the subject of *Bommer's Manure*. Mr. D. says:—"Having made use of Mr. George Bommer's method of making manure by fermentation, for more than one year, and having tested its results in various respects, I am now fully prepared to give my unequivocal testimony in its favor."

To SANFORD HOWARD, Zanesville, (O.) for specimens of silk from Mr. Gill's manufactory, a notice of which will be found in this paper. The specimens are very superior; among them, is a piece of the crimson silk from which the flag for the China mission was made.

To J. R. SPEED, Esq., for the Prize List of the Tompkins Ag. Society.

SALE OF IMPROVED STOCK.—It will be seen by a notice in this paper, that Mr. BEMENT, of the Three Hills Farm, near this city, proposes to sell at public sale a portion of his improved stock, consisting of bulls, (old and young,) cows, heifers, calves, South Down sheep, &c. The sale will be held on Wednesday, the 13th of this month, and will afford a good opportunity to those who wish to improve their stock to procure such animals as they may want.

☞ A most gratuitous, and, were it not for the malicious spirit indicated, amusing attempt is made in a late number of one of our recently established agricultural papers, to pervert and misrepresent an article on breeding, which appeared in our paper for July. To show its true nature, it is only necessary to say that the effort is made to show that the Cultivator has "grossly calumniated" the Short Horn Durhams; and the writer says, "If the Short Horn breeders will put up with such gross calumnies on their stock, why then we are greatly mistaken in their spirit, and the sooner their herds are driven back to the place from which they came, the better." It was news to us to hear that we, who have ever been the strenuous advocates of the Durhams, had calumniated them; and so, we doubt not, it will be to such breeders as Messrs. Prentice, Roteh, Bement, Vail, Sherwood, Randall, Hillhouse and others in this State, and to the Messrs. Lathrop of Mass.; Messrs. Collins, Townsend and Whitney of Conn.; Dr. Poole of New-Jersey; Messrs. Gowen, Cope and Morris of Pa., and a host of other Short Horn breeders, who have been the constant readers of the Cultivator. They will wonder as much as we did where these gross calumnies are to be found in our pages. For the thirteen years we have had charge of an agricultural paper, we have been in the habit of expressing our views freely on all matters of interest to the farmer. In so doing, it is not strange that at times we have crossed the course of those whose selfish purposes and the interest of the great body of the farming community do not coincide, and who, for that reason, are disposed to assail us. When our opinions have been criticised, we have ever been ready to concede to an opponent whatever we were convinced was right, our only object being the attainment of correct principles. But when our opinions have been called in question in a captious or faultfinding spirit, with attempts to misrepresent and pervert our views, as in this case, it has been our practice to allow such attacks to pass without notice; and we should not have deviated from our usual course in the present instance, had not our attention been specially invited to the article by the journal itself. The temper and tone of the paper in question are such as to preclude all hope of an amicable discussion; we cannot enter into a controversy with a writer who knowingly and willfully misrepresents us; and having obtained the notice sought for, we hope the editor in question will be satisfied. We certainly wish him no harm, and to be obliged to retract the many kind things we have said of him would pain us; but we must confess that since his trip to England, whither he was sent, we believe, as an agent to purchase pigs, he has afforded the most striking illustration of the "important man," so humorously described by Washington Irving, who had smelt salt water and written a book, that has ever fallen under our notice. Although he has never to our knowledge bred any farm stock but pigs, immediately on his return, (without having seen but a moiety of the fine Short Horns of England, and probably not a single extensive herd of Ayrshires,) he pronounced, with oracular gravity, that "there was but one man's herd in England that would improve our own," and that there was no necessity for importing Ayrshires, inasmuch as we "could make them by the thousands here." His assertions that we have calumniated the Short Horns, will receive about the same degree of credence that the above assertions of his did here and in England. That his efforts to distort and fix a meaning on our language never intended by us, will have more weight with the public than did his European discoveries, we do not believe; in any event, he is welcome to all the credit or profit he can derive from them. We take leave of this part of our monthly notices with the remark, that there is not a well informed Short Horn breeder in the country that will claim more for them than we have cheerfully allowed in the article in the Cultivator; and that there is not a man in the United States, claiming the character of a gentleman, who would not be ashamed of the language and manners of the paper we have here noticed.

PRIZE ESSAY.—We commence in this paper, the publication of the Essay on Manures, which received the Prize offered by the N. Y. S. Ag. Society, at its annual meeting last winter. It has received the highest commendation from the agricultural press, and is, we think we may say, though from the pen of our associate, one of the ablest essays which has yet appeared on the subject. On copying it into his paper, the editor of the American Farmer remarks:—"We should do injustice to the ability with which Mr. Gaylord has treated every head of the various subjects he discusses, were we to refrain from the expression of our admiration of the profound research, astute judgment, critical acumen, scientific attainment, and practical knowledge he has displayed. The essay was most truly worthy of the *prize* it won for its erudite author."

MEASURING CROSS.—The description of this instrument, p. 82, seems perfectly plain to us; and we think our correspondent, "*North East*," if he will read it carefully with the instrument in his hand, and place the point *d.* on such part of his face as will bring *g.* and *a.* on a right line, *g. a. f.* with the eye, and then go such distance from the object as is necessary to bring *i. e.* also on a right line with the eye, we think he will get it in a right position. Its correctness, and whether the unevenness of the ground will make any difference, may easily be tested by trying it on a tree, and then felling and measuring its trunk. We will, however, endeavor to give North East's Measuring Cross hereafter. His inquiry is answered in another part of this paper.

THE HERD BOOK.—The long expected vol. (the 4th,) of this work, was issued in England on the 1st of August.

BUTTER AND EGGS.—Our domestic animals are not in the habit of striking for higher wages, but we should scarcely wonder if our cows and hens should propose conventions for deciding on ulterior movements. Only think of new sweet butter made from clover pastures, hawked about the streets, and finally exchanged perhaps for groceries at six cents per lb. And eggs gathered daily from their cosy nests in the clean straw, and offered a drug at six cents a dozen. Yet this has been the state of things in most of our country villages, and hundreds if not thousands of tons of butter and myriads of eggs have been disposed of at these prices. If our animals will continue to produce at such prices, they must be very good natured, to say the least of them.

THE MISSISSIPPI FARMER, a monthly octavo of 16 pages at $1,00 a year, has just been commenced at St. Louis, by J. Libby.

Foreign Intelligence.

MEETING OF THE ROYAL AGRICULTURAL SOCIETY AT DERBY.

By the kindness of our London friends, we were put in early possession of various London and other English papers, containing very full accounts of the proceedings of the meeting, and several of them filled with pictorial illustrations of the cattle yards, trial of implements, dinners, &c. &c. It must have been a proud day for the English agriculturist, and a scene which no friend of farming could look upon without feeling his blood coursing more warmly through his veins. The United States were ably represented at the meeting by Mr. Everett, minister to Great Britain, and by Mr. Colman, who, our readers are aware, is now on an agricultural tour through that country. Both gentlemen were called out, Mr. Colman at the Council dinner on Wednesday, and Mr. Everett at the great Pavilion dinner on Thursday, and their speeches were very effective, and received great applause. Of Mr. Colman's, our readers will judge for themselves, as we give it below, and our limits alone exclude Mr. Everett's, as it was decidedly one of his happiest efforts. Better, far better, for two such great nations to meet each other at the table to celebrate the triumphs of agriculture, than to mingle in the deadly strife of the field, to offer bleeding sacrifices to the grim demon of war. Premiums were awarded to the Short Horns, Herefords, Devons, as distinct breeds, and premiums were also given for the animals that had no claim to descent from any of these. The large engravings of the Times give a lively representation of the arrangements, buildings, &c. for the Fair, and of the multitudes by which it was attended. We may here add that the reception which has been given to Mr. Colman has been of the most hearty and gratifying kind, and that he will accumulate materials for a most valuable publication, no one can doubt.

MR. COLMAN'S SPEECH.

At the Council dinner of the Royal Agricultural Society at Derby, Professor Owen gave as a toast, "Success to Agriculture over the whole world."

The President, Lord Hardwicke, called upon Mr. Colman from America, to reply.

Mr. Colman began by observing that he never rose with more diffidence than upon this occasion. He felt oppressed by the conviction of his inability to say what would be worthy of the attention of this distinguished assembly; and by his grateful sense of the treatment which he had received, which had been nothing but a succession of acts of kindness and hospitality since his arrival in the country. He agreed with the noble President in his admiration of the implements and machines exhibited in the Show yard; but he left the yard with great regret, that among all the various and ingenious productions, there was not to be found a machine for making a dinner speech. He hoped that some one of the ingenious gentlemen at the other end of the Hall, might presently supply the deficiency. It might not be necessary for the members of the Royal Ag. Society, whose speeches he desired, in the language of the committee, "to commend generally;" nor to the Minister Plenipotentiary from the United States, who has an admirable machine of his own, which always turns out the best work; but for such a poor wight as himself, from the Yankee land, it might be extremely convenient.

Agriculture was the great subject of that occasion; and he meant no invidious reflections, when he pronounced it the art of all arts, the foundation of true wealth, a source of rational pleasure and useful occupation, and the great conservator of morals. Its indispensableness must be universally acknowledged. They might do without physicians, if they would observe strictly the laws of health; and without lawyers, if they would keep their tempers; and possibly without preaching, if every man would take care of his own conscience; and without soldiers, if men would observe the great law of christian equity, and "do to others as they would that others should do to them;" but how they were to do without the farmers he did not well see.

Agriculture, he had said, is the foundation of true wealth. It is indispensable to human subsistence. Gold and silver are the mere exponents of wealth; and a man might command the mines of Golconda, and heap up his accumulations of money as high as the Andes, and yet starve in the midst of them. Agriculture is the source of many of the luxuries of life. Agriculture is favorable to morals. He would not assume for the farmers more virtue than prevailed in other classes; but he would say of the agricultural profession, that there is nothing in its pursuit prejudicial to good morals. Agriculture is a source of innocent and rational pleasure. Many of the brightest and best minds which ever adorned human nature, have so found it. He believed his excellent friend, (the Duke of Richmond,) for so his kindness permitted him to call him, highly and justly as he prized the duty of defending his country's honor on the field of battle, would yet acknowledge that he has found some of his sweetest pleasures in the pursuits of agriculture; in the improvement of this art, and in rendering the earth productive for the sustenance and comfort of both man and beast. There was another great mind, to their interest in whose reputation he was surprised to find the English were not more sensible; he meant Washington: for Washington was born an Englishman, a British subject, and defended the honor of the British flag, and though afterwards he became an undutiful son, yet every fair mind would do justice to his convictions of duty. Washington found in agriculture the highest and purest gratification; and his agricultural journals, as they exhibit the most minute and exact attention to the management of his farm, even amidst the burdensome and anxious duties of public life, are among the most instructive documents ever given to the world.

England takes the lead of the world in its improved agriculture. It has long been distinguished for its enlightened improvements. The names of Tull, Young, and Sinclair, form a bright constellation. There are other names to be added to them, of whom he would say in the words of the Roman poet, "may it be late before they return to the stars" who are destined to share even a more brilliant immortality. He could not speak from personal observation, but from information; and it is said that of all nations, Belgium has most fully tested the productive capacities of a single acre. The agriculture of Germany must be highly improved, as he had the most authentic assurance from a German friend, that he had himself assisted in gathering 4000 bushels of potatoes from five acres of land, a crop which he believed had in no country been surpassed. The agriculture of China is reported to be carried to a high degree of perfection. It is stated that the Chinese literature has 27,000 treatises upon agricultural subjects. This may be Chinese exaggeration; but one or two of their treatises, which had been translated, he had read, and he could say they showed intelligence and exactness of observation. Indeed it would hardly be well to treat with disdain the agriculture of even a barbarous nation, who by their agriculture had subsisted such an immense population and accumulated such vast amounts of wealth and laid so large a portion of the world under tribute. America is urging on her agricultural improvements, and like young Iulus, is following in the path of her ancestor, "with unequal steps."

The advancement of agriculture, he deemed among the higher pursuits of philanthropy. Its moral and religious tendencies deserved consideration. There is every thing in the cultivation of the earth to invite the mind to the contemplation of that invisible and beneficent agency, which from the wide-spread table of its bounty, supplies the wants of all living things.

He would call the attention of that assembly to one other subject, and that was the improvement of the condition of the laborer. A high authority commanded us "not to muzzle the ox which treadeth out the corn." Every effort should be made for the education and elevation of the laboring classes. It was too late in the day to decry the value or disparage the influence of education, as though it would injure the laborer. He would ask if it injured those classes in society who are already blessed with it? It should be given to the laboring classes likewise, as a consolation under their severe toil, and as a means of wholesome recreation, and of withdrawing them from the beer house and other places of corruption, and of making their homes more happy.

Mr. Colman asked leave, in conclusion, to offer the following sentiment: England—the sun in the political sphere; like her own Eddystone, a blaze of light in the midst of the ocean. May she send forth her radiance, not to wither but to cherish; not to make desolate, but to quicken and make alive. May her intellectual and moral energies be concentrated upon the highest objects of philanthropy, the spread of knowledge, the advancement and diffusion of the useful arts, and the universal extension of civilization, liberty and peace.

Wheat in France.—We find in the *Revue des Economistes* of Paris, some interesting statements respecting the wheat crop of that country, which exhibits the resources and the fertility of France in a striking light. It appears that a surface of two thousand eight hundred square leagues is appropriated to the culture of wheat. This is more than two-fifths of the tillable land of the kingdom, and about one-tenth of the whole superfices of France. The Revue states that the quantity of wheat raised in France is seventy millions of *hectolitres*, (each hectolitre is 2-837, or nearly 3 bushels,) and is valued at $262,000,000. This is said to be a greater quantity of wheat than is raised in Britain, Poland, Prussia, Sweden, Holland, Belgium and Spain; but unless the quantity of wheat raised in Britain has been greatly overrated, this statement of the Revue cannot be correct. Between eleven and twelve millions of hectolitres are used for seed, and about 60 millions are consumed in the country, very little being exported. The Revue estimates the consumption of wheat by the inhabitants of the several countries named to be as follows. (The titre is half a litre, or rather more than a pint.)

France, to each individual,			....	210 titres,
Great Britain,	"	"	....	163 "
Spain,	"	"	....	127 "
Holland,	"	"	....	57 "
Prussia,	"	"	....	36 "
Poland,	"	"	....	25 "
Sweden,	"	"	....	8 "

Estimating the quantity required by each person at 3 hectolitres, or 8½ bushels, there is in France a deficiency of 1¼ hectolitres to each person, in the aggregate, which is supplied by rye, corn, buckwheat, chestnuts, &c. Potatoes are not extensively used in France, though they are beginning to be looked upon with more favor. Of every hundred acres of land cultivated in France, about forty acres are in wheat; but as about one-third of the whole quantity is raised in some ten or fifteen of the departments of the north, it is clear that a much larger portion of the cultivated land in these districts, must be in wheat, than in the others. Taking the whole cultivated, the average product is to the seed sown, as six and a quarter to one. The best wheat districts produce more than this, but the average of many of the departments is below this estimate. These estimates, founded on the returns furnished by the Bureau of Agriculture in France, furnish some valuable points of comparison with the wheat crop of this country, imperfect as the last census was in its details. Here we raise about 100 millions of bushels, with not one half the population. We consume also about the same quantity as in France, and we hope hereafter to be able to state the average quantity returned for the seed sown.

Review of the British Corn Market for June.—This part of the London Farm. Magazine for July is unusually full, and the effects of the introduction of American corn, (or wheat,) through the Canadas into England, discussed with great force and bitterness. Until quite lately, it has been the fashion there to decry all articles of American produce, but now when specimens have been introduced and sold all over the kingdom, they are compelled, reluctantly it may be, to admit their excellence. The Review says,—"The means for increased production are boundless, and the quality of the wheat in particular, is very fine, being fully equal to the best grown in Essex itself. American pork too, is likewise superior to any which even Wiltshire can produce, for it is fed on Indian corn, wild nuts, &c. and consequently cures better than any grown either in Ireland or Great Britain." If these are facts, and we do not doubt them, why not let the starving millions of England eat our surplus wheat and pork, and in return take those things which we do not or cannot manufacture for ourselves? The same article, in the part relating to the barley crop, says:—"At least one-third part of the beer now consumed, is manufactured from coarse sugar, salt, and many deleterious articles; for two barrels from the licensed brewer, are now regularly converted into three by a mixture of ingredients of the above description." Poor encouragement this for English beer guzzlers, and if they could understand the whole mystery of beer making, they would deem the encouragement poorer still. Barley can be raised, and profitably raised too, without converting it into beer; this is getting to be well understood in some of our best barley producing counties, and will doubtless be found to be true every where.

AGRICULTURAL INSTITUTE, BRIDGEPORT, CT.

The location of the Institute, (the intention to establish which, was announced in the Cultivator for July,) is on the east bank of the harbor, within a few minutes walk of the churches, in the midst of agreeable rural scenery. The object of the Institute is to furnish a system of education adapted to the wants of those youth who may be designed for the pursuits of agriculture. It is remarkable that agriculture, on which mankind are dependent for their very sustenance, which employs daily "not less than two hundred millions of men and nine-tenths of the fixed capital of civilized nations," should have received so little aid from legislation, and comparatively so little and so late attention from the learned and powerful; and that it has yet no schools or colleges to investigate and illustrate its principles, to advance its interests, to elevate its character, and to give it both as an art and a science, its just place among the several departments of human learning. It is intended that this Institute shall provide the means of a complete agricultural education. Those only will be received into the Institute, who have made considerable advancement in the ordinary branches of an English education. The full course contemplated will require from three to four years, and will embrace all the natural sciences, with their application to agriculture, particularly Chemistry, Geology and Botany; the evidences and general principles of natural and revealed Theology, Mathematics, Moral Philosophy, Political Economy, Rhetoric, History, Original Composition, Extemporaneous Speaking; the drawing of the various business papers, and the principles of civil, constitutional and national Law.

It is designed that courses of lectures shall be delivered by distinguished Professors, on the different branches of natural science, and particularly upon chemistry in its application to agriculture.

The ancient and modern languages will be taught if desired, and the pupil prepared for entering college. Lessons in music, penmanship and drawing, may be obtained at moderate charges.

There will be a systematic course of agricultural experiments to test the value of different modes of culture, of the several kinds of manure, and of all such products of the farm as may be suited to the climate. The pupil will have an opportunity of witnessing the various operations of farming, horticulture, and the planting and growing of fruit and ornamental trees, with the formation and use of the several kinds of manures. He will not be required to engage in field labor, except perhaps to learn the use of agricultural implements; but when desired for the purposes of health or economy, he may be employed on the farm, in the garden or nursery, a given number of hours daily, for which a just allowance will be made on the term bills. A skillful farmer, gardener and nurseryman will be employed, and the department of each will be conducted with a studious regard both to economy and scientific principles.

It is impossible, I fear, without trespassing too much upon your columns, to enter into a more minute detail of

the plan contemplated for an Institute, the object of which is to promote the great interests of agriculture. Should the Institute be sustained, it will, in some humble degree, supply that system of education which has been so much desired; it will add something to the advancement and influence of agriculture, and tend in no slight degree to that concentration of power and interest from which agriculturists have hitherto experienced so little benefit. N.

CULTURE OF COTTON AND CORN.

We give the following from a private letter of Dr. Cloud, who promises us an article soon on the importance of devoting "more care and attention to the selection of Cotton seed." Under date of July 15, he says:—

"I have been induced to dispose of my place at Planter's Retreat, and settle in Macon co. This exchange, though greatly to my interest, I made most reluctantly, on account of the loss of my manures and other preparations for a *fair trial* and a *great* triumph in the improved culture of Cotton. I determined, however, to brave every difficulty, and I had collected at that late period a sufficiency of rather an inferior article of manure, that I found scattered about the place, to enable me to carry forward the experiment, though on a small scale, yet quite sufficient to test the system. Notwithstanding the most unfavorable circumstances, and a late start, together with the most extraordinary season I have ever seen, yet I have a beautiful experiment, both of *Cotton and Corn*, in every way equalling my last. My cotton now stands from 5 to 6 feet high, and topped on the 10th, on which day I counted on one stalk, and it not better than some others, upwards of 300 balls, blooms and squares. Treatment just as described in the Feb. no. of Cultivator. The land rather better in its natural state than my land at Planter's Retreat. I have no doubt but my success with corn under this system, will astonish planters as greatly as did that of my cotton."

ACCLIMATING CATTLE IN MISSISSIPPI.

We are greatly obliged to our friend M. W. Philips, Esq. of Log Hall, Hinds co., Miss., for his letter of July 23, from which we give the following extract:—"In the July number of your present vol., page 117, you seem to think there is no great difficulty in rearing the Durhams here. Having had some experience in this matter, as much and probably more than any one else, I beg to correct you, lest my friends may be led to go into the purchase, without knowing the whole ground. I will not for a moment contradict any one who would say improved cattle would succeed as well here as elsewhere, if we would provide ample stores of feed and pasturage. That is not the difficulty: it is the keeping alive the first summer; for almost nine-tenths of them die of disease, not want of food. They must undergo acclimation; there is no doubt of this fact; I have it from gentlemen of high standing, of many different plans being pursued, some stabling, some on fine pastures, some housing at night, &c., but in too many instances I might say all have died. We might prepare all sorts of roots and all sorts of clover, but as good as these are, in all probability August will find many of them 'numbered with the dead.' I have been the means of introducing more horned stock in this region at least of Mississippi, than any one else; have lost about one-half, and for days together, in 1840, had to haul out a cow or a heifer.

"The greater part of the stock brought here, came very poor; did not improve at all until about 1st of June; then grazing on a good pasture, with an abundance of water within a few hundred yards of where they were at any moment. I had fancied to myself they were safe, as they had begun to play and visibly to improve, when a fine young bull died, without any one noticing he was diseased. Immediately I brought up the stock into a lot, where the pasture was very trifling, commenced salting freely, with ashes, lime, tar and salts, but too late. All that were affected, except *one*, died, and some twelve head cast their calves. I tried bleeding, salts, blister on the spine, clysters, &c. &c., but of no avail. I immediately changed their diet, and kept them the balance of the year on principally dry food, since which I have lost only two from disease, one of them native bred.

"The experience of my friends corresponds precisely with my own. I will now give what I deem the best plan, and what I pursued with some others since received, and which plan was successful, had I not stopped too soon; but the cattle having lived till in September, I thought them safe, turned them into the pea field, and so soon as they began to improve, (in some 15 days,) one cast her calf, and with all the attention of housing, physic, (calomel,) &c., she died.

"I would advise cattle be brought here from the east, because I have had four sent here from Philadelphia and Baltimore; one of the first died, by the brutal treatment of a negro—the other as I state above. I would also advise calves be brought under twelve months, young of any kind becoming acclimated soonest.

"The cattle may be well kept until April or May; they should not be suffered to improve after that time, their principal food dry provender, with an occasional grazing, say from 8 to 9 A. M. and 5 to 6 P. M. Let them run in a well shaded lot with free access to abundance of water to drink or stand in; to salt, mixed with ashes or a little lime, and a shed under which they can lie in mid day and at night. This plan I pursued, and so far I have saved more, considering the number I brought out, than is by any means usual. Understand me, give them water, salt and ashes without stint; drive them to it, if they will not go, for frequently they will drink very much when they will not walk one hundred yards to it. Give them a well shaded lot; protect them from hot sun and the dew; feed on dry food, without permitting any increase of flesh, with enough grass to prevent fever or constipation of bowels, and no more.

"Rely on it, it is not leeches that always cause murrain: I lost one that had access only to spring water, that we all drank daily of. It proceeds often here from the grass being forced into an undue succulence by seasons and our warm sun. Instances are known here where almost a whole herd of a hundred or more natives have died of it, from the fresh, succulent grass putting up in August or about, after the woods were burnt in midsummer. A friend lost several, after a fine rainy spell of weather. I have given my plan to several this season, and so far have not heard of any losses, and certainly we have had just the season for murrain."

THE BREEDERS' CONVENTION.

The following came too late for a place in the department devoted to correspondents; we therefore give it a place here, and would renew the notice that the proposed convention is to be held at the Library of the American Institute, New-York, on the evening of the 17th October:

Messrs. Gaylord & Tucker—I am glad to see by the June no. of your most excellent and valuable paper, that a convention of breeders is to be held in New-York on the 17th of October; and I doubt not it will be fully attended from our own and from other states, as affording the very best opportunity of gaining information which is much wanted, not only by our young breeders, but by the agricultural community at large; I however wish the circular of the committee could have been more explicit as to the proposed mode of proceeding, and as to the farm stock to be examined, whether the whole or a part, and what part.

A frequent inquiry has been made within my hearing, as to the necessity of the convention doing more than to decide on what *are* the constituents of excellence *generally*, without descending into the particulars of *breeds*. It is claimed that what is profitable and best—what constitutes intrinsic value in *any* description of stock, is not changed by *breed*—it is still in the abstract the same thing; if a wide, full loin is necessary to excellence, is it not equally so in the Devon as in the Durham, and in all other breeds?

Now I take it this is the very view of the subject which a further acquaintance with the science will correct, and which the resolutions of the convention will tend to put in its proper light. If I understand the object of the meeting, it is to decide what of general excellence is compatible with the peculiar and characteristic excellence of the respective breeds—what can be exacted of them without a deterioration of those features which form their distinctive character and usefulness: for instance, great weight in the fore quarters, though very desirable and a decided excellence in the one breed, would injure the activity and utility of another; neither would the same size be necessary to the excellence of one variety, that would be required in another. Therefore, if purity of blood be desirable, its features must be retained, which could not be the case were the same points insisted upon as constituents of excellence, without regard to breed. The committee has shown its good sense and judgment in barring all comparison of breeds, and the convention will be more likely to agree as to what they *should be*, than as to what *they are*. Much, however, of the usefulness and harmony of the convention will depend on the chairman, and his personal acquaintance with the subjects under consideration; for a watchful attention to, and a quick perception of the turn the debate may take, will be necessary to guard against the vexed question of comparative excellence.

Should these first meetings of the convention be productive of the advantage that is anticipated, will they not be so continued as to embrace all descriptions of stock, either now or at some future time, and perhaps discuss other unsettled questions of deep interest to the breeder?

I believe great advantages must grow out of any arrangements that would more frequently bring together the breeders of stock, for the purpose of discussing matters connected with their common interest. Yours, &c.

Thomas Thompson.

Mountain Farm, August 11, 1843.

WOOL GROWING.

In Mississippi.—Extract of a letter to the editors of the Cultivator, from H. A. Garrett, Esq. Adams co., Miss.:—"I have much confidence in our being able to raise the best and finest wool in this country. Our sheep here, in small flocks, live the whole year round in fine order, without any other feed than what they get from the pasture; we never hear of any disease or complaint with them; salt, and protection from the dogs, is all the attention they require. I do not know of any very large flocks in this country, and cannot say how they would get on. I presume, however, it would require much more pasture than we now have."

On the Prairies.—Our friend J. R. S., asks the following question:—"Why is not the vast extent of prairie in Wiskonsan and Iowa, well adapted to the growing of fine wool?" On this subject, we give in this paper, the opinions of an eastern wool grower, and we shall be glad to hear some of our western friends who have had experience in the business, on this question.

FARMERS' CLUBS.

Of the various methods that have been adopted to awaken inquiry among farmers, promote investigation, furnish the means of interchange of thought, and create social harmony and good feeling, few have been more successful than the associations known by the name of farmers' clubs. What the agricultural society is to the county, these are in many respects to the neighborhood, and the good results, wherever they have been instituted and sustained, are not less apparent. The effect of such associations does not so much depend on the numbers, as on the spirit, zeal and intelligence of the members, although where the right feeling prevails, the more that combine the better. There are few agricultural neighborhoods where a dozen men cannot be found willing to meet once a month to compare opinions, and communicate the results of their experience and observations. Even half a dozen, if they are men of the right stamp, will make the meetings of such a club most interesting and instructive. Such meetings are the places to discuss and settle all points of a practical character in agriculture; soils, their qualities, and the crops best adapted to each kind; agricultural implements and their improvement; new theories, and their rationality or practical bearing; questions connected with agricultural reading or education; in short, every thing belonging to the farm, the orchard or the garden, will be found a suitable and fruitful topic of remark. Such a club should possess an agricultural library, supported by the contributions of each associate, and open to every member, the books and periodicals to be subject to such regulations as to afford security against loss. The best foreign as well as domestic works on agriculture and its kindred sciences might always be found, and all the most valuable of our periodicals useful to the farmer placed on file for reading or for reference. To each individual the expense would be far less than if his labors for information were alone and unaided, and the mutual advantages decidedly greater.

Another of the benefits resulting from such an association would, or might be, the formation of an agricultural museum, embracing specimens of the various soils cultivated by the members, or any of those remarkable for their fertility or otherwise; specimens to illustrate the geological character of the district, and show the bearing this science has on agriculture; specimens of the various kinds of grain and cultivated plants, whether remarkable for size, novelty, or their valuable qualities; fruits, roots, &c. according to the season; together with all such matters as are calculated to interest and instruct such a body of men; the whole, as far as possible, to be preserved for the benefit of all. We have merely thrown out these few hints, in the hope that some of our spirited farming neighborhoods may be induced to further develop them and reduce them to practice. Wherever, in Europe or in this country, this or kindred plans have been adopted, the results have been most happy, and the cause of agriculture has received a decided impulse.

SUCCESSIVE CROPS OF WHEAT.

We find in the American Farmer a letter from A. Whann, Esq. of Elkton, Md., detailing his account of growing several successive crops of wheat from the same land. We give it as a proof of the capabilities of a good soil, not because we would recommend such a system of exhausting culture. The ground had been cleared for a long time, and for many years had been in timothy and clover. The first year it was manured on the clover lay, plowed and harrowed, and planted with corn—product, 850 bushels. We throw the 7 years into a tabular form:

1st year,	manured, plowed and harrowed;	corn,	850
2d	"	plowed and harrowed;	barley, 380
3d	"	manured, plowed once, and harrowed twice;	wheat, 422
4th	"	manured, plowed once, harrowed twice;	wheat, 400
5th	"	manured, burned stubble, plowed as before;	wheat, 350
6th	"	manured, plowed once, harrowed twice;	wheat, 400
7th	"	manured, plowed once, harrowed twice;	wheat, 300

Mr. Whann used the red wheat for seed, changing it every year until the last, when he sowed one-half with a white wheat which gave only 100 bushels, causing a loss of a quarter of his crop. His manure was stable manure, and not applied heavily. He sowed 2 bushels to the acre, and on the 15th of September in each year. Neither the fly or the rust troubled his wheat, though prevalent in the vicinity.

Clover and Texas Grass in Mississippi.—Our friend Philips, of the *Southwestern Farmer*, urges upon the Mississippians the necessity of a more general introduction of clover, and cites several cases where it had succeeded perfectly. Speaking of the grasses, he says:—"Our opinion at present, is that Texas grass will suit us better than any other—it is green all winter, spreads on the ground, has strong fibrous roots—on good land will grow high enough to mow, will bear the hoof and bite, and can be cut more than once."

Answers to Inquiries, &c.

USE OF SALT.

MESSRS. EDITORS—I see it stated that common salt, (muriate of soda,) is coming into use largely in England, as a manure. We have around a salt manufactory at this place, a large quantity of refuse salt, with which we could very easily test its virtues. I am, however, ignorant of the quantity per acre used on land, and of the mode of using it; also on what soils, and on what crops it is found to be the most beneficial. Any information on this subject will be gratefully received.

Athens co., Ohio, 1843. S. F. VINTON.

In England, salt is generally applied to the wheat crop, and is spread on the fallow "some time before sowing in quantities of not less that ten, or more than twenty bushels per acre." The use of salt does not appear to increase the bulk of straw, but the ear is better filled, and the grain plumper and heavier. Another mode of applying salt, is to take quick lime and slake it with strong brine. This should be done a month or two before it is required for use, and then mixed with swamp muck, or earth, before spreading on the soil. Lime so prepared, is said to produce a capital effect. From the experiments made, it appears that light or gravelly soils, are those most benefitted by the use of salt.

THE WILD CHERRY.

MESSRS. EDITORS—It is known that the leaves of the wild cherry, if eaten by cattle, when they are just wilted by the sun, will kill them; whereas, when they are green, and also after they are dried, they are not at all hurtful to cattle. Can you give us the reason why, just at the wilt of the leaf, they are poisonous?

L. DURAND.

The poisonous qualities of the cherry are owing to the prussic acid they contain, and of the various kinds of cherry, the Laurel or Bird cherry is the most dangerous. It was from the leaves of this tree that the poison was formerly obtained. While the leaves are fresh, the poison is so diluted with the juices, that it loses most of its energy, and besides, animals cannot eat the same quantity of fresh leaves that they will of wilted ones. The consequence is, they obtain from the wilted leaves a much larger quantity of poison, and that in an undiluted state. In drying the leaves thoroughly, the poison is lost with the other juices; for of all poisons, prussic acid is the most difficult to confine or retain in purity. The numerous instances of the death of animals from eating wilted cherry leaves, should render farmers cautious how they allow cattle to have access to them in that state, or indeed to any extent in any other.

GREENSTONE LANDS OF VIRGINIA.

MESSRS. EDITORS—The Greenstone lands of my neighborhood are the most valuable we have. I have noticed that where marine salt has fallen on this stone, it has hastened its disentegration, and so I suppose wou'd any other salt, whether simple or compound. Disintegration changes the color from green to a bright brown. Will you be so obligingly as to inform me what are the components of this stone? (*a*)

There are in my lands, and throughout my neighborhood, much bog iron ore; and I have noticed that where ever it has been brought to the surface, the land is presently improved by it. Will you be so good as to inform me whether marine salt will oxidize the iron, whereby the improvement may be hastened? (*b*)

There is in my neighborhood a considerable quantity of sulphuret of iron. I have used this after it had decomposed and become copperas, as a manure for tobacco, and found its virtue superior to plaster. We are informed it has been extensively and beneficially used on clover in Flanders. Please inform whether or not this substance is used to any extent as a manure in the United States, and the result? (*c*)

Amherst, Va., June 16, 1843. Z. DRUMMOND.

(*a.*) Those primitive rocks in which felspar, as the main ingredient, is combined with hornblende, or sometimes with augite, are termed greenstone. Their appearance in columnar masses, as well as their injection in veins in other rocks proves their plutonic or melted origin. The peculiar qualities of greenstone soils, and they are usually valuable, is owing to the felspar the rock contains. Felspar is composed when pure, of silica 64 parts, alumina 20, potash 14, and lime 2, in 100. But greenstone usually contains more lime under the form of calcareous spar, and it is evident that the disintegration of a rock so rich in potash and lime, must make a good soil. It is remarkable that felspar, perhaps the most abundant mineral on the globe, should contain about the same proportions of the principal earths that analysis shows exist in the most fertile cultivated soils.

(*b.*) There are two oxides of iron constituting iron ore—the red and the black. Both are insoluble in pure water, and both dissolve readily in acids. It is the first which in boggy land is so injurious to vegetation. But according to Sprengel, Johnston, &c. this red oxide exposed to the air, has the property of absorbing ammonia, and must thus be useful in furnishing it for plants. Salt, by the conversion of the black oxide into the red, might hasten this fertilizing effect, but we have no facts or experiments to determine that such would be the result. All soils containing iron should be frequently moved, kept free from water, and loose and pervious to the air.

(*c.*) The use of sulphuret of iron by Mr. D., is the only instance we have known in this country; yet Sprengel asserts that a subsoil from a bog, containing sulphuret of iron, produced great effects used as a top dressing on grass lands. The explanation given is, that the pyrites absorb oxygen, and is converted into sulphate, and thus reproduces the remarkable effects observed on the addition of gypsum, of sulphuric acid, or of sulphate of soda, to similar grass lands.

CLOVER SEED.

MESSRS. EDITORS—One of your correspondents, in a late no., speaks of farmers sowing clover seed "between the thumb and finger, as if it were gold dust." Now I am well aware that most farmers sow grass seeds too thinly; but where they cost from five to ten dollars a bushel, they *are* almost as precious as gold dust.

What is the reason that farmers in Dutchess cannot raise their own clover seed? If they can, how is it necessary to manage a piece to secure the seed?

If you will be so good as to answer these queries, Messrs. Editors, you will oblige me, and perhaps other subscribers. NORTH EAST.

We certainly are aware of no reason why as good clover seed cannot be produced in Dutchess county as in Seneca, and believe it might be. There will always be some failures with this crop; but in general, if managed well, a fair yield may be considered certain. Where the first growth of clover is allowed to proceed and head without mowing or feeding, it rarely fills as well as a later growth. In the clover seed districts of western New-York, the first growth is mown *early* for hay, and the second is used for the seed. The growth will not be heavy, but the seeds will be abundant and of good quality. Some feed off the clover in the spring pretty close, and then take a crop for seed. Of the large clovers, this method does well, as they are later than the smaller ones, and require more time to perfect their seeds. With these, waiting for mowing rather hazards the seed crop, and we have found feeding the better way. When the heads of the clover have become dry and brown, it should be cut while the dew is on, and suffered to lie until the chaff and stem have become partially rotted, never stirring it while very dry, as the seeds are easily lost. Clover seed is now usually got out by machines, which not only give a greater yield, lessen the labor much, but render the long and tedious process of rotting mostly unnecessary.

NEW WORK ON FRUITS.

WE are gratified in being able to announce that A. J. DOWNING, Esq. of Newburgh, than whom no individual in the country is more competent to the task, is engaged in the preparation of a volume on fruits, which will, we are confident, be welcomed by every orchardist and fruit grower in the country. There has been so much confusion of names and imperfect descriptions of fruits, in our American treatises on fruits, (and foreign ones are by no means exempt,) that names and descriptions have furnished but very imperfect guides to a knowledge of the fruit indicated, and the purchaser of trees found this to be the case, frequently to his cost. The superior advantages of Mr. Downing, his intimate acquaintance with the subject, and the skill and patience he has brought to the investigation, will doubtless correct these evils, and give the public a work on which both the grower and the tree purchaser may rely with confidence. We give in the present number descriptions, with outline drawings, of five varieties of cherries, and we hope hereafter to follow them up with drawings and descriptions of other fruits from the same source.

NOTICE OF NEW PUBLICATIONS.

"PRODUCTIVE FARMING."—This is a popular digest of the recent discoveries in agriculture, and the consequent improvements, compiled by J. A. Smith, and from the press of Wiley & Putnam and D. Appleton & Co., New-York, to whom the agricultural public are so much indebted already. The arrangement appears to be very good, and the volume, a neat duodecimo of 150 pages, is sold at the low price of 31 cents. (A notice of this work, by our correspondent "*Richmond*," will be given in our next.)

JOHNSTON'S LECTURES ON THE APPLICATION OF CHEMISTRY AND GEOLOGY TO AGRICULTURE.—We have received from the American publishers, Wiley & Putnam, New-York, Parts I. II. and III., with the Appendix, of this valuable publication. There is an independence of thinking and a clearness of reasoning in Prof. Johnston's works, that render them attractive and instructive. We perceive he has just been chosen as the agricultural chemist of the Edinburgh University, and that he will do honor to the place, none who read these lectures can doubt.

"THE ECONOMY OF FARMING."—This valuable contribution to what may be termed our agricultural literature, is a translation from the German of Prof. Burger, with copious notes from Thaer, Veit, Sprengel, &c., by E. Goodrich Smith, and published by Leavitt & Trow, New-York. It is a handsome octavo of some 140 pages, and afforded at 50 cents. These Germans are a curious people, the most imaginative and speculative on earth, and yet endowed with a nicety of calculation, a perseverance of purpose, a coolness of judgment, and a patience of investigation, that distances all competitors. We are glad to see this publication. We have had translated for us the great works of Liebig and Sprengel, embracing the German theories of farming; now we have in this translation from Burger, ample details of their practice; the whole interspersed and illustrated with a great variety of tables of the most useful kind. Differing in some respects as the German mode of farming does from ours, (though in a less degree than the English,) it is still sufficiently near to render the statements, tables, &c. very valuable to our cultivators of the soil. We are glad to perceive, in a well written preface, that, should the present issue meet with such a reception from the public as to warrant further translation, the other portions of Burger's works will be given to the public. On the subject of agriculture, there is a mine of riches in the German publications, the exploration of which has as yet been hardly attempted; and we much misjudge the character of our farmers, if Mr. Smith is not encouraged to proceed with his translations. We cordially recommend it to all who wish a compend of a mass of facts of the greatest practical utility.

THIRTY YEARS FROM HOME, OR A VOICE FROM THE MAIN DECK.—This interesting volume, published by Tappan & Dennet, Boston, contains the experience of Samuel Leech, who was for six years in the British and American navies; was captured in the Macedonian; entered on board the U. S. brig Syren, and was captured by Medway 74. We notice it here, because having a personal acquaintance with Mr. Leech, we are assured of the general fidelity of his narrative, and because it affords the best insight into life in a vessel of war that can any where be obtained short of actual experience. Since Mr. Leech has abandoned the great deep, he has taken a decided interest in the more peaceful pursuits of agriculture, in which he has become no mean proficient. As a narrative calculated to deeply interest the young, we know of but few works that exceed "Thirty Years from Home;" and as the moral is every where good, we trust it will have an extensive circulation.

THE EVERY DAY BOOK OF HISTORY AND CHRONOLOGY, by Joel Munsell; Albany, E. H. Pease; 2 vols. of 400 pages each. This is a valuable collection of facts in history and chronology, embracing notices of celebrated persons and memorable events in all ages of the world, arranged under each day of the year, forming a very useful book of reference, to which all may refer with advantage. The author has been several years engaged in making the collection, which is particularly full on all subjects connected with the history and men of our country, and great care has been taken to give the dates in accordance with the best authorities.

THE MEDICO-CHIRURGICAL REVIEW.—This valuable quarterly Journal of Practical Medicine, is regularly republished in New-York, by R. & G. WOOD, at $5,00 per annum. Each no. contains nearly 300 pages, close print, embracing a general view of medical practice and science in all countries, and must, we should think, prove invaluable to the medical man.

BLACKWOOD'S MAGAZINE.—This well known magazine is promptly issued each month, by J. Winchester, New World office, New-York, in about 20 days after its appearance in Edinburgh. Only $2 a year.

AMERICAN SPORTING CHRONICLE.—Commend us to our good friend W. T. Porter of New-York, for a journal which will unite the suffrages of all true sportsmen in the country. Not satisfied with giving us the "Turf Register," and "The Spirit of the Times," two publications unrivaled in their way, he has commenced another under the title of the American Sporting Chronicle, which from the comprehensive nature of its plan, and the exciting character of many of its topics, as well as from its fine execution and its cheapness, must have many readers. In the success and spread of all healthy, manly and athletic exercises we shall be glad, but when they degenerate into brutality, and are of a character fit only for the savage state, they ought to be placed under the ban of the severest reprehension. Believing that the Editor of the Chronicle views this matter in the same light that we do, we hope he will not permit his desire to cater successfully for all, to allow much of his columns to be devoted to pugilism, that remnant of barbarism, and practice utterly unworthy an enlightened age. Nothing can be worthy of attainment, the price of which is the surrender of public virtue and public morals.

THE SOUTHERN CULTIVATOR.—This is the title of a very neat and well conducted agricultural paper, recently commenced at Augusta, Geo. It is published semi-monthly, 8 pages quarto, at $1,00 a year, by J. W. & W. S. JONES.

THE FARMER'S CABINET.—This neat and well conducted paper has just commenced its 8th vol. Philadelphia, published by J. TATEM—monthly, 32 p. octavo, at $1 per year.

"THE PLANTER," is the title of a weekly folio sheet, commenced at Columbia, S. C., about three months since, at $2.50 per year. It is ably edited by J. J. DUBOSE, Esq. and has already done much to aid in awakening the interest which is now felt in that state on the subject of agriculture. The South Carolinians are beginning to realize the necessity of an improved system of culture in their present crops, as well as the introduction of such others as they can grow to advantage. Mr. Ruffin is now engaged in making a survey of the agricultural resources of the state, from which much important information is expected.

STATE AGRICULTURAL CATTLE SHOW AND FAIR AT ROCHESTER.

Before we issue another number of the Cultivator, this great anniversary holiday of the farmers of New-York will have passed; and we allude to it now for the purpose of calling the attention of our readers generally to the time of the meeting, the 20th and 21st of September, and to state that from all we can learn from our friends in the various sections of the state, the Fair will be well attended, and the display such as the farmers of western New-York may well be proud of. As the Show is held in connection with the Mechanics' Association of that part of the state, we can promise all who attend, such a proof of the American mechanics' skill and ingenuity as has been rarely witnessed; and we are glad to say the contemplated arrangements are such that the whole may be seen without confusion, or danger of injury to the articles exhibited. There will be great numbers of beautiful cattle, horses, sheep, swine, &c., of both the improved and the native breeds upon the ground; by examining which, our farmers can satisfy themselves of the great superiority of the improved breeds, and the best domestic animals, over the common race of scrubs, such as in too many instances waste the time and eat out the substance of the farmer. Such opportunities of comparison are invaluable, and should be improved by all. Wheat, the berry of which is this year every where good, will, unless we are much deceived, be exhibited in samples proving that the farmers of the Genesee country have not yet lost their skill in its culture. Rochester is the very heart of one of the best fruit growing districts in the United States, of which we have no doubt the qualities and varieties of fruit exhibited will furnish ample evidence. The arrangements for the exhibition of agricultural implements are of the best kind; and as it is clearly for the interest of the inventor or improver of all such that specimens should be on the ground, we may anticipate in this respect a show of great extent and interest. Our advices, too, warrant such an expectation. The facilities of approach to Rochester are so great, by canals, railroads and the lake, that the conveyance of articles or animals for exhibition will occasion little inconvenience, and we think our Rochester friends may safely calculate on a multitude of spectators. We trust the coming Cattle Show and Fair will exceed those that have preceded it; and that, as in them, no feelings will be awakened but those of increased devotion to the cause of agriculture, and new and still stronger proofs of the utility and advantages of such associations be afforded in the result.

☞ We learn by a letter from J. M. Sherwood, Esq., that most of the railroad companies between this city and Buffalo have consented to transport stock to the Fair free of expense, and there is no doubt that those companies not yet heard from will be equally liberal. The *Auburn and Rochester Railroad Co.* will despatch an extra train from Auburn, and sell tickets for going and returning at half price; and we presume the same liberal course will be pursued by the railroad companies west of Rochester.

FARMING IN MARYLAND.

We have been favored with a copy of Mr. Bowie's Address before the Prince George's Ag. Society of Maryland, at its Fair on the 3d of November last. It is one of the very best addresses of the season. The following are extracts:

Improvement of Worn out Lands.—The last year I manured 30 acres at the rate of 21 cart loads to the acre. I experimented upon six acres; one I cow-penned; one I covered with tobacco stalks; the third I enriched from the stable; on the fourth I used barn yard manure; the fifth was provided for by my piggery, and on the sixth acre I sowed five bushels of fine salt. The result of my experiments was satisfactory as to all. I am not prepared at present to say which was the best, or which will be the most lasting. I am inclined to think the tobacco stalks are the best under all circumstances. This field of 30 acres was not worth $300; it is now valued by discreet farmers at $900. This was done at very little inconvenience to myself, the manure having been hauled out at such times when my crop required not my attention. I have mentioned this to show how easily our worst lands may be improved, and as an encouraging instance of the success of a slight attention to the improvement of land.

Rotation of Crops in Maryland.—In my humble opinion, the proper system of culture to improve land, is to divide a farm into five fields, having one in tobacco, one in corn, and one in grain, and two in pasture; that is, going on turf for tobacco, following that with corn, and corn with smaller grain, and setting down to clover and timothy mixed, taking care in all wet, low spots to sow herd's grass. Thus you have always two pastures, and three after harvest. Stock should never run on young clover during a rainy spell, or when the land is very wet. All stock should be taken in August from the field to be worked the following year. The field should then be cleaned, and if foul, should be fallowed in the fall; but if clean sward, free from weeds, it ought to be turned up early in the spring; and by a deep plowing, and thereafter frequent harrowing, a fine crop of tobacco can be taken off without disturbing the turf.

AGRICULTURAL FAIRS THIS YEAR.

From every part of our state we hear the note of preparation for the autumnal meetings of our Ag. Societies; and below we give the time of meeting of as many as have met our notice. It is a matter of gratification to us, to see the extension of a spirit that produces such results, for it is an assurance, that having once broken in upon old usages, having seen and taken note of things that are good,—good animals, good implements, and good articles of home manufacture, they will no longer rest contented out of the career of improvement. Among the Societies intended to foster domestic industry and render us as a nation truly independent, the American Institute of New-York, has labored long and zealously. It is intended that the coming Fair of this Institution shall exceed any thing that has preceded it; and as it disburses the amount paid to the city by the state, there is reason to believe that the Agricultural department of the Institute, will better correspond with the wealth and fine farming of that and the neighboring counties, than formerly. With all our County Societies, the watchword is onward, and we cannot doubt that the meetings of the coming months will give a decided and beneficial impulse to the great cause of Agriculture.

State Fair at Rochester, Sept. 20th and 21st.

American Institute, New-York, commences Oct. 10. Silk Convention, Oct. 12. Plowing match at Patterson, Oct. 16. Breeder's Convention, Oct. 17. Cattle Show, Oct. 18, 19.

Cayuga Co., at Auburn, Oct. 11, 12.

Chemung Co., at Elmira, Oct. 17, 18.

Chautauque Co., at Fredonia, Sept. 29, 30.

Cortland Co., at Cortland Village, Oct. 3.

Columbia Co., at Hudson, Oct. 10.

Dutchess Co., at Poughkeepsie, Oct. 4. Premiums are to be given for the best 5 bushels of Clover, and 15 of Timothy seed, "raised in the county."

Erie Co., at Buffalo, Oct. 11, 12.

Genesee Co., at Batavia, Oct. 4, 5.

Lewis Co., at Lowville, Oct. 11, 12. Address by C. Dayan, Esq.

Orange Co., at Goshen, Oct. 4.

Oneida Co., at Vernon, Oct. 4, 5. Address by B. P. Johnson, Esq.

Onondaga Co., at Syracuse, Oct. 4, 5.

Ontario Co., at Canandaigua, Oct. 17, 18.

Rensselaer Co., at Lansingburgh, Sept. 27, 28.

Tompkins Co., at Ithaca, Sept. 28, 29. A premium of $5,00, offered by Ezra Cornell, Esq., is to be given "for the best experiment in fattening hogs."

Ulster Co., at Kingston, Sept 20.

Wayne Co., at Newark, Oct. 10, 11. In the premium list of this Society, we notice with pleasure that three premiums are offered "for the best and most useful set of *experiments* on the manufacture and application of manures." Premiums are also offered "for the best conducted poultry establishment." Two plowing matches are to be held—one for men, and one for boys.

St. Louis Co. (Mo.) Oct. 24, 25.

Union, (Ill.) at Ottawa, Sept. 27, 28.

Philadelphia, (Pa.) at the Lamb Tavern, Oct. 4, 5.

Windham county, (Ct.) at Brooklyn, Sept. 27.

Hampshire, F. and H. at Northampton, Oct. 19. Address by Wm. Lincoln, Esq., of Worcester.

Newcastle, (Del.) at Wilmington, Sept. 13, 14. Address by Dr. Wm. Darlington of Pa.

ABORTION IN COWS.

We give the following letter, received by Mr. Prentice of Mount Hope, from Prof. Grice, veterinary surgeon, of New-York, on this subject. Believing that a change of pasture would prove beneficial, Mr. Prentice some time since sent a large portion of his beautiful herd of Durham cows to the north part of the State, whence we trust they will ere long return in a sound and healthy condition.

New-York, June 27, 1843.

Sir—I should have written to you before this, but absence from the city and a press of business have prevented.

After much mature deliberation on the obscure cause of abortion which your cows have been subject to, I think I have arrived at a satisfactory conclusion as to the cause. In taking into consideration the luxuriant state of the soil caused by animal matters employed to effect that purpose, and knowing the decomposition which they undergo, also the new compounds which they form, I hesitate not to say that *ergot of rye* has located itself among the grasses; and as we know it has a specific action on the womb, causing an expulsion of its contents, it has fully confirmed my first diagnosis. I have availed myself of the knowledge of the first chemists: they at first seemed at a loss; but when I suggested to them my views, they unanimously agreed with me. Two opinions have been advanced respecting this substance: my own opinion is that it is a fungus which locates itself on the stems of different grasses. The ergot which is used for medicinal purposes is of a violet color, the inside white. The active principle, it seems to me, resides in its *outer* tunic; and as this may be washed off by the rain, in wet seasons it is not productive of so much mischief.

In giving you my advice, the only plan I could at this moment suggest for the removal of the evil, would be the immediate change of pasture for the cows; also that the lands should be broken up for one season, so that the roots of the grass may decompose, and an entire change be effected in the vegetable process.

THE SEASON, THE CROPS, &c.

Extracts of Letters to the Editors of the Cultivator.

Talbot co. Md., July 31.—"The crops of wheat on this shore are much injured by red rust." M. G.

Derby, Ct., July 31.—"We have in this region, for the past two months, suffered from the great drouth. Our hay crop, on upland meadows is not more than half a crop, as estimated by our farmers. Rye in this town, in some pieces is good; while in others is hardly worth harvesting; owing, as is supposed by many, to the hard frost which we had the first of June, which froze it when in the bloom. Oats in this region are short stemmed, owing to the drouth, but the grain pretty well filled. Corn and potatoes more or less generally injured by the drouth. Yesterday and last night we have had a fine rain, which has been the only rain to wet the ground since the first of last June." L. D.

McConnellsville, O., July 29.—"Crops of wheat light; a poor prospect for corn, oats, potatoes, &c. &c. on account of the extreme dry and hot weather." W. B.

Macon co. Ala. July 15.—"This has been an extraordinary year for planters; a very cold and backward spring, some two or three very considerable falls of snow in March, with a great deal of rain. This entirely destroyed the first planting of corn, which had to be planted over again. The rains set in before planters cleaned out their crops, commencing about the 8th June and they have had their hands full since. It rained constantly, and frequently in torrents, till about the 4th July. Nothing will save the planter but a late fall and good season from this forward, which may give them half crops of cotton. The corn crop is pretty fair. The *grass* and *weed* crop full to *overflowing*." N. B. C.

Holmes co. Mi s. July 21.—"I have the pleasure of sending on to you again, another $5 for six copies of the Cultivator. The amounts I send are small, but I will try and send them often. I am anxious for each planter to enjoy the benefit of the Cultivator, therefore I do not wait to obtain a large sum before sending on. Several of our planters are experimenting on Dr. N. B. Cloud's system of raising or planting cotton, and I have no doubt, if they pursue to the letter, "his plan," they will succeed well, at least better than they have heretofore done. All our planters cultivate (or rather try,) too much land, from sixteen to twenty-two acres to the hand; say ten of cotton and eight of corn. Our crops generally bid fair to make plentifully, and most of planters have heavy crops on hand." A. M. M.

Log Hall, Miss., July 23.—It is too early to give any sure opinion as to the present crop—the cotton crop especially; it is as uncertain a crop as ever was planted in any country, and as the most critical part of the season has yet to come, the present prognostics should be received accordingly. Generally speaking, there is much complaint; many do really believe they cannot make an average, while others think much less will be made. From what I have seen, I think it will be fair; should we have dry weather for two or three weeks, this will not be; because for six weeks to two months it has been reasonable, yea! wet; and if it turns off dry, the cotton must cast (or shed,) its forms greatly, there being a very light early crop; this must cause a failure. My own prospects are excellent—cotton good, and two acres more to the hand than ever before. Mine has had advantages; it has never suffered by the grass, and is now lain by, while others have been and are even now in the grass. Crops of corn are good." M. W. P.

Adams co., Miss., Aug. 10.—"In this part of the cotton country we have fine crops of corn; in the opinion of the wiseacres, we have had too much rain for a good cotton crop; it is opening very slowly, and any prediction as to the extent of the crop, might be considered hazardous. I fear though, we shall make more than we shall sell well." H. A. G.

New-York, Aug. 1.—"I have just returned from a tour through Pennsylvania, Maryland and Virginia. The wheat crop, I think, is little more than half as heavy in the straw as last year; but the grain is of better quality, and probably about three-fourths as much in quantity. Corn, though unusually late, has a very healthy growing appearance, and promises a pretty fair crop. Oats I have never seen shorter. I don't think that from here to the interior of Virginia, there will be more than half as many oats as last year; and the crop of hay, I think is about two-thirds as good as last year." L. F.

Muskingum co. O., Aug. 8.—"We are at this moment having a fine rain, after a most severe drouth, which has inevitably cut off corn and potatoes to less than half a crop. Wheat proved very light, not more than half a crop through the middle and southern regions of this state; but in the eastern and more northern portions it was much better." S. H.

Bunker Hill, Ill., July 24.—"Wheat crop in many parts a total failure, and what remains is blasted." J. A. P.

Chester co. Pa., Aug. 11.—"Wheat here in general is good; oats is short; hay crops are lighter than usual; corn is unpromising, owing to the severe frost on the 2d of June." J. M. H.

Onondaga co., Aug. 19.—"The drouth here is very severe, and will have a bad effect on the corn crops, unless it rains speedily. Potatoes are past recovery. It is a little damp and cloudy to-day, and we hope for rain before all is over." W. G.

Columbia Hort. Society.—We believe our good friends in Columbia county, can boast of the most efficient Horticultural Society in the state. Their general exhibition for this year will be held at Hudson, Sept. 21, 22, 23, when over $100 will be distributed in prizes.

Prize Essay.

THE PREPARATION AND USE OF MANURES.

BY WILLIS GAYLORD,
Associate Editor of the Cultivator.

INTRODUCTION.—Of all the pursuits to which mankind, from necessity or inclination, have devoted themselves, there is none more honorable,—certainly none more useful,—than that of agriculture. To pursue this business successfully, knowledge, extensive and varied, is required; for, although a man may succeed by following the beaten paths of his predecessors, occasions will frequently arise, when the end desired may be attained by methods much shorter than those usually adopted, if the farmer is able to form and apply them. It is here that science has, within a few years, rendered the most essential aid to agriculture. Sometimes, reasoning from well known effects to their causes, the agricultural chemist has placed in the hands of the farmer the means of producing results, always desirable, but which, under the older systems of farming, with his utmost care, he frequently failed of obtaining. Again, taking well established facts in animal or vegetable phisiology as his starting point, he has arrived at results of the highest practical importance, and is enabled to render more certain and effective the more tardy operations of nature. In no department of agricultural industry, it is believed, have the labors of science been more beneficial or more apparent than in that of the preparation and use of manures; certain it is, there is no department more deserving attention, or where an elucidation of the principles and laws that govern the growth of plants, acts with a more direct and energetic influence.

DEFINITIONS.

A definition of the term manure, may be necessary, in order to treat the subject understandingly, as different individuals use the word in widely different senses, some in a wide, and some in a limited one. A few instances of the meaning put upon the term will be given from a few of the modern writers who have adverted to this topic. Thus Dr. Leiber, in his German Conversationes Lexicon, defines manure to be "vegetable, animal and mineral matters, introduced into the soil to accelerate vegetation, and increase the production of crops." The Encyclopedia, published by the London Society for the Promotion of Useful Knowledge, thus defines it:—"Every substance which has been used to improve the natural soil, or to restore to it the fertility which is diminished by the crops annually carried away, has been included in the name of manure." Loudon, in his great work on Agriculture, says—"Every species of matter capable of promoting the growth of vegetables, may be considered as manure." Prof. Low, in his Elements of Agriculture, says—"All substances, which when mixed with the matter of the soil, tend to fertilize it, are in common language termed manures." Mr. Johnson, in his "Farmer's E cyclopedia," lately published, says—"A manure may be defined to be any fertilizing compound or simple ingredient added to a soil, of which it is naturally deficient." The definitions of Prof. Liebig and Dr. Dana, two of the latest writers on the subject, do not differ essentially from those already given. Of these definitions, I prefer the most simple and comprehensive, that of Loudon, and in this paper shall consider the term manure, as embracing every substance capable of promoting the growth of plants.

CLASSIFICATION.

Manures, by some, are classed as earthy, organic and saline; others divide them into animal and vegetable, mineral and mixed manures, and some speak of them as composed only of geine or humus and salts. Others class them as organic and inorganic; but these divisions are of little consequence, as every farmer understands that manure is the result of decomposition or change; and that, whether organic, that is, derived from animal or vegetable matter; or inorganic, such as the earths, clay, lime, the alkalies, &c., it is only efficient when presented to plants in certain forms, such as decomposition, division or solution. In France, they have terms to distinguish those substances which act mechanically in improving the texture of the soil, from those which act directly in the nourishment of the plant. The former class of substances they call *amendements*, and the latter ones *engrais*. It is probable, however, that the system which considers all manures as consisting of humus or geine, and salts, comprehending, in the latter term, all the mineral substances that enter into the growth or nourishment of vegetables, will eventually be found the most simple, and at the same time the most accurate of all the proposed divisions of manures. Thus humus constitutes the source of the carbon, forming the principal part of the structure of plants, and the salts, where they do not enter into the structure of plants, are active in preparing the other inorganic elements, and exciting the vegetable organs in their reception and appropriation of nutriment.

HUMUS OR GEINE.

Humus or geine is simply decomposed animal and vegetable matter; and as from it, by the action of oxygen, carbonic gas is derived, to be absorbed by water and taken up by the roots, or mixed with the atmosphere and taken up by the leaves of plants; or, as some agricultural chemists with good reason suppose, is under certain circumstances dissolved, or is soluble, and thus rendered fit for immediate nourishment to plants, it must be considered the most important item in the production of manures. The salts, which are the most efficient in aiding vegetation, or the most active manures, are those formed from the alkalies and their various combinations. Thus, from pure lime or calcium, is formed, by the union with carbonic acid, *carbonate of lime;* with phosphoric acid, *phosphate of lime*, the base of bones, one of the most efficient of fertilizers; with sulphuric acid, *sulphate of lime*, or gypsum, the value of which is well understood; and so with the other alkalies, which, in their combinations, form substances of the utmost consequence to plants. It is well known that the outer covering of some kinds of cane, contain so much flint or silex as to strike fire with steel; and some of the grasses contain this substance in such quantity that their ashes will melt into glass with potash. Now, this hardness, so necessary to their perfection, could not be attained unless this flint had been rendered soluble by union with an alkali, forming a silicate of potash, and by this solubility been rendered fit for the action and appropriation of the plant.

FOOD OF PLANTS.

If we would know what kind of food is required by plants, one of the first steps necessary is to ascertain of what the plants themselves are composed. The combinations of matter may be said to be absolutely endless; but the original elements of this multitude of combinations, are few in number. Chemistry has detected only some fifty-five substances incapable of further reduction, or what are called simple substances; and of these, strange as it may appear, only four, except in proportions merely accidental, go to the formation of plants. Of these the first is *Carbon*. This forms from 40 to 50 per cent by weight, of the plants cultivated for food; and is therefore most important to animals and to man. The second of these simple substances, is *Oxigen*. The quantities of this substance are immense; and though we are acquainted with it only in the form in which it exists in the air, nearly one-half of the solid crust of the globe, 21 per cent of the atmosphere, eight pounds in every nine of water, and more than one-half of the living bodies of all plants and animals, are oxygen. *Hydrogen* is the third substance peculiar to plants. This is the lightest of known substances, and forms a small part of the weight of all animal and vegetable bodies; constitutes one-ninth part of the weight of water, but enters into the composition of none of the masses that go to form the crust of the globe, coal excepted. The fourth simple substance, entering into the formation of plants, is *Nitrogen*. This forms 79 per cent of the bulk of the atmosphere, constitutes part of most animal and some vegetable substances; is found in coal to the amount of one or two per cent, but does not exist in any other of the mineral masses constituting the crust of the globe. Although not an abundant substance, the importance of it is not the less decided, and some of its functions are of the most indispensable kind. Plants then, are composed of carbon, oxygen, hydrogen, and nitrogen; the first derived from carbonic acid, the second from the atmosphere, the third from the decomposition of water, and the fourth from ammonia absorbed by water, and taken up by the roots of the vegetables. Some of the earths are occasionally detected in plants, and salts of some kind are always present. In the preparation of manures, the principal object to be aimed at, it is evident, must be to supply the materials needed to furnish the carbon and the ammonia; and these are found in the greatest abundance in dead or decomposed animal and vegetable matter.

LAW OF NUTRITION.

It seems to be a law of nature, that the higher the grade of the animal, or the more complicated its organization, the greater the necessity of a corresponding degree of organization in the substances used as food; indeed the manner in which the crude materials, found in the earth and atmosphere, are worked up by plants into a state suitable for conversion into the flesh of animals or food for man, exhibits the strongest proofs of benevolent design in the formation of such grades of organized matter. Man can, indeed, live on plants, but his teeth demonstrate that flesh was to constitute no inconsiderable portion of his food. As all animals receive their food, either directly or indirectly, from the vegetable kingdom, it is evident their excrements, or their decomposed bodies, must form manures of the most valuable kind; and it is to this source, the excrements of animals, that the farmer must look for his supply of manures to restore the fertility of the soil. In treating further of manures, it will be best to begin with this, as the most important class.

ANIMAL MANURES.

A late British writer on agriculture, says:—"The chief use of cattle on an arable farm, besides those necessary for the operations of husbandry, is to produce manure for the land. If the cattle repay their food, and the expense and risk attending their keep, the manure is sufficient profit. Even with a moderate loss, they must be kept, when manure cannot be purchased. The loss, if any, on the cattle, must be repaid by the increase of the corn crops. Manure is to a farm, what daily food is to an animal; it must be procured at any sacrifice." Common barn-yard or stable manure is the kind to which most farmers must look for the fertility of their farms. This consists of the droppings of the cattle, mixed with the straw used for littering in stables or thrown into the yards for the animal to feed or lie upon, the coarser hay and weeds refused by the stock, and the urine of the animals kept in the stables or yards. This is constantly trampled, is usually kept moist if not wet, and is finally decomposed, or converted into manure fit for the production of crops. This is the most usual course, but it is evident that there must, in this method, be a serious loss to the farmer, of the more valuable properties of the manure. In this way, the decomposition is unequal; a part will be converted into mold while the other will be scarcely acted upon; the salts and the more soluble parts of the excrements, which are the most efficient ones, are dissolved by the rains, and carried off by the drains, or lost in the earth; and where any considerable degree of heat is evolved, as there will be when the decomposition is rapid, or is going on in large masses, the escape of ammonia, so easily detected by the smell, shows that the nitrogen, so essential to the growth and perfection of a grain crop, is rapidly wasting.

PREPARATION.

To prevent these results, and secure the whole benefit of the manure, two methods have been adopted. The first consists in applying the manure fresh, or in a long state, to the fields it is wished to manure, without waiting for it to decompose. In this way the manure collected in the yards during the winter, is removed in the spring, and applied to such crops as require it the most; and as no fermentation ensues in ordinary cases, until the commencement of hot weather, two sources of loss at least are avoided, those of the washing away of the soluble parts, or their being carried off in the shape of gas. Where there exists no necessity for retaining manures for other than spring crops, and where the crops cultivated are such that long manures are suitable for their growth and tillage, this mode of disposing of manures must be considered one of the best that can be adopted. But in many cases the formation of manures in the yards and stables of the farmer is going on the whole year; and preservation in masses, or by being scattered in yards during the hot months, would be to greatly lessen, if not mostly destroy its value. Besides, there are some crops, such as some of the root crops, in the cultivation of which experience has proved fully that rotted or decomposed manure is far preferable to long manure, as much of it is already in a soluble state, and is available to the plants at the time they need hastening the most, which is the period immediately after germination. When the waste of manure is to be prevented during the summer months, or it is desirable to provide a quantity of fully rotted manure, then the second method should be used; and this indeed, by many excellent farmers, is considered the best in all cases.

FERMENTATION.

In this method, the practice is to remove the dung from the stables and yards at short intervals, and place it in large piles or masses, that the proper fermentation may take place previous to its use. When a pile of manure is made in this way, the fermentation takes place in the quantities applied, as they are successively deposited, and therefore does not reach usually that point in which material loss is sustained. If it is found that the heat is becoming too great, or the fermentation injuriously rapid, so as to cause the escape of ammonia, a layer of earth or sods placed over the pile, will retain, by combination, the escaping gases, and thus prevent the loss. It has been found a most excellent plan, one which not only greatly increases the quantity of manures made in this way, but adds to its quality, to mingle with or cover the successive deposits of manure with earth from ditches or ponds, peat or muck from swamps, or turf from bogs or plowed lands, as such layers, consisting mostly of vegetable or animal matters, will, by absorbing the drainings of the manure, or the absorption of the escaping gases, be converted into one of the most efficient of fertilizers. The more solid such deposits of manure are made, the more slow will the fermentation be, and hence in unloading, the carts or wagons may be driven over them if necessary to expedite the work, where the immediate use of the manure is not an object. Should the dung placed in these heaps be too slow in fermenting, it may be hastened by opening the piles, or still better by making holes in the top, into which the wash of the yards and the urine of the stables may be poured. This method has another advantage. The manure from the yards, if not wanted as long manure, may be removed to the fields where it is to be used, at times when the men of the farm cannot be otherwise profitably employed, and will be at hand, ready fermented in these piles, when a further transportation might be difficult if not impracticable.

LONG OR ROTTED.

It is a question of considerable importance to the farmer, and one which has been much discussed, whether it was better to apply manure in its long state always, or or always allow its full decomposition before using. From his own experience, the writer has been led to doubt the correctness of either of these positions. It seems to be universally admitted that matter, to be efficient as a manure, must be soluble, and it is clear that the more solid parts of farm yard manure require to be softened by putrefactive fermentation before they can be considered in this state. Where, then, the influence of manure is required to be felt at once, as on the turnep, beet or carrot crops, in order to push them forward at the first start beyond the reach of insects, my experience is, that the manure should be in a state reducible to powder, in which condition a large portion of it may be expected to be soluble, and of course at once available by the plant. Where, during the fermentative process, the mass has been reduced to a black carbonaceous matter, it may be inferred that the heat was too great, and the manure seriously damaged; on the contrary, if the mass, while perfectly fine, dry and friable, still retains its dark brown color, it will usually be found that none of the good qualities have been lost by over-fermentation.

But where the manure is to be applied to crops which do not require forcing forward in the early part of their growth, but demand as much or perhaps more nutriment

at a late period of their vegetation to perfect their seeds or roots, then experience has shown that it is best to apply the manure without any considerable fermentation to the soil. Indian corn, potatoes, and the grain crops generally, are of this class; the two first particularly. The time when corn and potatoes require the most nutriment, is at the time when the ears and tubers are forming; and when manures but partially fermented, or used fresh from the yard or stable, are applied, the decomposition is comparatively gradual, and the supply greatest when most needed. I cannot recommend the application of manures of any kind directly to grain crops, as it has a tendency to give straw at the expense of the grain, and wheat so manured, is far more apt to suffer from mildew or rust, than when the manure, by application to other and previous crops, has become perfectly incorporated with the soil. In this state, that rapid growth, which is the result of first fermentation, is avoided by the wheat plant; and the substances necessary to perfect the berry are already prepared and within reach of the growing or maturing plant.

Dung varies much in its quality, not only from the perfection or imperfection of the fermentation to which it is subjected, but also from the animals producing it, and the food which animals receive. The richest and most effective manure we have ever used, was that from the hog yard, and produced by fattening hogs. That from cattle, fed on corn meal and oil cake, will be little inferior; and either will be found 100 per cent better than ordinary farm yard manure. The reason of this is very plain. Such animals are fed with substances abounding in the materials most needed by plants, with very little admixture of useless matter, and the comparatively small quantities of animal matter and salts added, rather contribute than detract from its efficacy. The dung of sheep is more valuable than that of horses or cattle not fattening, as the materials are more perfectly assimilated or mixed in mastication, and more fully decomposed.

GREEN CROPS.

Next to farm yard manures, to keep up the fertility of his lands, the farmer may most certainly rely on green crops, either fed off upon the land, or turned under by the plow, and there allowed to ferment and decompose. For a plant to enrich exhausted soils, affording as it does both top and roots to a large extent, there is no plant equal to clover; and particularly where it is necessary or desirable to have the green crop fed off by animals. I prefer letting the clover grow until nearly or quite in blossom, and then turning sheep upon it. They will eat much of it and fatten rapidly; but they will trample down more, and this, mixed with their dung, forms in its decay a most efficient top dressing; and repeated for two or three years, forms an admirable preparation of the soil for wheat or other grains. When a crop is cultivated to be plowed in, it should be done at the time when the plants contain the greatest quantity of nutritive matter, and have least exhausted the soil in which they are growing. This, in most cases, will be when the plants have come fully into flower. At an earlier period there may be as much weight, but a larger portion of it will be mere water; and, if allowed to stand much later, the soluble matter is lost in the seed, and the ligneous part of the stem becomes more difficult of decomposition. Buckwheat is a good plant for a green manure; its growth is rapid, and gives a great weight per acre, and two crops may be plowed under in a year. The best way of plowing in such green crops, is to pass a heavy roller over them, which lays the plants close to the ground, and greatly facilitates covering them by the plow. It is believed that corn, sown broadcast, and when just showing its tassels, cut and covered by the plow, would be one of the best crops that could be chosen for this purpose. A man or boy, in this case, would be required to follow the plow, to place the corn in the furrow for covering, at the next passage of the plow. Taken at this time, corn abounds in nutritive matter, and could scarcely fail of proving a first rate fertilizer of the soil.

PEAT.

A variety of decomposed vegetable matters, or those partially decomposed, are used as manures. The fallen leaves of trees are of this class; but the instances are few in which they will repay the expense of gathering; perhaps never, in the United States, where the other sources of an abundant supply of manures are so numerous. If collected, the best method of using them, is to litter stables, or form beds for pigs, or mix at once with other manures; as, in such ways, they absorb urine and other fluids that might escape, and together undergo decomposition. But the most important source of decayed vegetable matter, and one, the value of which is not yet by any means sufficiently understood or appreciated, is to be found in the great deposits of this substance in swamps, low meadows, and peat bogs, in all parts of our country. On the subject of this kind of manure, there is no authority equal to Dr. Dana of Lowell, Mass. According to him, peat consists of soluble or insoluble geine or humus, with a few salts. From an analysis of ten specimens from different parts of Massachusetts, the highest and the lowest in the scale of soluble geine, is selected and given here, as well as two specimens of pond mud. This is done, as the value of neither peat or such mud is sufficiently appreciated by the farmer; and they are neglected when they might easily be made a source of the greatest fertility:

	Soluble Geine.	Insoluble Geine.	Total Geine	Salts and Silicates.
Peat.	10.15	49.45	59.60	40.40
	48.80	43.60	92.40	7.60
Pond Mud.	5.10	8.90	14.	86.
	8.10	6.50	14.60	84.40

COMPARISON WITH COW DUNG.

In his analysis of various manures, he takes for his standard, cow dung; and it is not a little remarkable that the constituents of peat and cow dung, should so nearly coincide. Dr. Dana's estimate of the several parts of peat of average quality, and of cow dung, is as follows. The peat was fresh dug, in this case; before, it was dried at 300°.

	Peat.	Cow Dung.
Water,	85.	83.60
Salts,	1.	95
Geine,	14.	15.45

PEAT COMPOSTS.

But notwithstanding this decayed vegetable matter is so rich in the organic elements of plants, experience proves that, applied in its natural state, it is almost valueless as a manure, compared with stable manures; and hence the reason it has been so little prized. Science has shown the cause of this result, and the means of obviating it; or, in other words, of unlocking the fertilizing powers of these vegetable deposits. To be able to give out ammonia, the peat or swamp muck must be fermented; and this may be effected by the direct addition of alkalies, or by making the peat into a compost with fresh manures. If alkalies are added, the quantity necessary to bring a ton of fresh peat into the same condition, so far as regards ammonia, as cow dung, would be "92 lbs. of potash, 61 lbs. of soda, or 16 to 20 bushels of common house ashes." But the farmer will usually find the best method of using peat, will be to combine the peat with manure, by mixing it with dung in his yards, or making it into compost. Many experiments have been made by some of the best farmers and gardeners of Massachusetts, in relation to the use of peat; and all unite in pronouncing it most valuable. Mr. Phinney of Lexington, says, that "a cord of green dung converts twice its bulk of peat, into a manure of equal value to itself; that is, a cord of clear stable dung, composted with two of peat, forms a manure equal in value to three cords of green dung." Mr. Robbins of Watertown, though owning a large stock, makes no use of their manures. These he sells; but keeps his farm in a high state of fertility, by mixing swamp muck or peat with spent ashes from his soap and candle factory. The proportions he uses are, one part of spent ashes to three of peat, dug up in the fall and mixed with the ashes in the spring. After shoveling over two or three times, it is spread and plowed in. The effect is felt at once; and so far the manure has proved durable.

(To be continued.)

EARLY AMERICAN AGRICULTURAL WORKS.

We have before us the volumes that record the labors and results of the first Agricultural Society of this State, and propose to give some notice of these, and also of the Memoirs of the Philadelphia Board of Agriculture. Of the first, there are four volumes; the first printed previous to 1800, and the last in 1816. By the Philadelphia Society, several volumes were published, commencing in 1810; and in both these series of volumes the farmer will find much to interest and instruct. He will be gratified at the positive evidence they afford that the practice of agriculture has made decided progress in many things since these volumes were produced; and he will hardly escape a feeling of mortification that, with the increased advantages agriculture now possesses, it should not have been still more rapid. Some things now deemed of the first importance to successful culture, he will find scarcely noticed; while other things, many are accustomed to consider new, he will find were then old.

We shall notice the Philadelphia proceedings first. It is evident that Judge PETERS was the soul of the Society,— the most active, if not the most intelligent of its members, although it numbered among its supporters nearly all the prominent men of the state.

Lime, or its use, at that time, as well as at present, furnished a fruitful theme of comment and controversy; the great battles being fought on the subject of caustic and magnesian lime, and there is little probability such controversy will be soon ended. A better knowledge of the nature of soils and the action of alkalies, would seem to be required for such a result.

The *Peach tree* was frequently diseased at that time, but we should think not so generally as now. In the 2d volume, Mr. Phillips, to remedy these evils, proposes to dig around them thoroughly, and strew lime liberally on the surface. He gives a flattering account of the success of his treatment.

Hedges excited much attention at that time, and many papers are devoted to the subject. Most of the plants recommended, have since received fair trials, and have been found unfit for use. Indeed, it may be questioned whether any good hedges have been produced from American plants, unless those from the buckthorn must be excepted. Still, this should not deter from further experiments on a subject of such importance.

Harrowing Wheat in the spring, is strongly urged and recommended. The breaking up the cake or crust formed by the winter, and the destruction of the insects and vermin sheltered under it, are among the principal reasons offered for the practice.

There is a well written paper on the culture of *Indian corn*, by Mr. Lyman. One third of his field he planted in hills two feet apart each way; another third 3½ feet each way; and the other 3½ feet between the hills, in rows 6 feet apart. Three kernels were planted in each hill. The two first parts were suckered, the last was not. In each part only two stalks were left in a hill. Leached ashes were applied to all the hills. The results were respectively 105, 98 and 85 bushels per acre. For this crop he prefers wood ashes to gypsum, whatever may be the soil.

Mr. Preston has a paper on the *Apple tree*, in which he endeavors to prove from the history of old apple trees found in Pennsylvania by the first settlers, and supposed to be more ancient than the arrival of Europeans in the country, that the apple tree is a native of this country. The facts stated are interesting, though the inference may be doubted.

Mr. Taylor (Arator,) of Virginia, has furnished several papers on *Gypsum*, and its value in connection with clover, as a renovator of the soil. The practice recommended by Mr. Taylor, was to sow clover after Indian corn, to exclude all animals, and allow the crop of clover, which was to be plastered annually, to rot upon the ground for three years, by which time it would produce a fine crop of wheat, to be followed by corn and clover. Clover and plaster is as highly prized now as then, as a renovator of the soil, but a better method is found to be to let the clover first attain a good growth, and then feed it off upon the ground by sheep. In this, not only a large accession of vegetable matter is gained by the soil, but a supply of azotized matter from the animal excretions.

Judge Peters was the first to propose in these papers the establishment of an *Agricultural Warehouse and Seed Store;* and the plan then deemed so novel and doubtful, has become one of the most necessary and successful aids of good husbandry. This is only one of the many proofs that in correct opinions on the subject of farming, and the best means of improving it, Judge Peters was much in advance of the age generally.

General Armstrong, then Minister at Paris, sent over specimens of various grains, seeds, &c. to the care of the Society, some of which have proved of much value. He also sent to the Society a plow with two shares, but on trial it was found inferior to an American constructed one intended to perform the same work.

Judge Peters has some notes on a paper by Col. Pickering, on the *Mildew of Wheat*. The Judge attributes, and correctly we have no doubt, the appearance of this disease very frequently to the use of hot and fresh dung. This gives a forced growth to the straw by over stimulating the plant, and besides affords a midus and shelter for insects. Fully rotted compost he prefers for wheat.

Mr. Young of Delaware, has a paper on the value of *Oats as the means of ameliorating a sterile clay soil*, impoverished by bad culture or neglect. Such soil he plows in the fall, putting on such manures as can be procured on his farm, and turning under all briers, weeds, &c. he can collect. On this, in the spring, he sows oats which are pastured on the ground, and never allowed to perfect their seeds. By repeated successions of such sowings, he soon converts his clays into rich mold, and then produced wheat and other grain crops with the greatest success.

John Lorain, well known as a valuable writer on agriculture, has a series of papers on mixed husbandry, soiling cattle, cultivation of corn and potatoes, &c. Some of his opinions have been sustained by experience, but others have been rejected. The saving in soiling cattle, and the extended culture of corn and roots recommended by him, show that he was in advance of farmers generally on these subjects.

In a paper on the different breeds of *Sheep*, by Judge Peters, he decides in favor of the Tunisian or broad tailed sheep, as the farmer's sheep. The reasons assigned are, that their mutton is superior to all others; that they are very hardy, and free from the disorders incident to other breeds of sheep; while their wool is inferior in quality only to the merino breeds. Public opinion, however, did not second Judge Peters, and the Tunisian sheep are now almost or quite unknown in this country. In a letter from Mr. Parry of Bath, Eng., the novel idea is advanced, "*that each filament of wool is a cone, with the apex next the skin.*" Consequently, the coarsest part is at the extremity, and the finest nearest the body. We must be permitted to doubt the entire correctness of this position.

The advantages, and the consequent necessity of a frequent *change of seed*, are well set forth in another essay by Judge Peters. That this necessity might be obviated by proper care in selection, he does not deny, and instances the case of Mr. Cooper of New Jersey, one of the most successful of grain growers, who never changed his seeds, but was remarkable for the attention he gave to their selection and quality. Our experience would be altogether in favor of a change of seeds; and in this most farmers we believe will agree with us.

We take leave of the subject here, merely remarking that the Memoirs of the New-York Society will form the subject of another paper; and that it will scarcely have escaped the notice of the reader, that on the important matters of reclaiming wet lands, thorough draining, the cultivation of turneps, subsoil plowing, &c. not a word is said, leaving the legitimate inference that they were comparatively unknown.

LOOK OUT FOR READY GROUND COFFEE.—Our readers are probably some of them aware that coffee packed in papers, and ready for immediate use, is to be found at many of the groceries and shops of the dealers in such articles. Occasionally a good article may be offered; but to show of what a large portion of this ready prepared coffee is made, we make the following extract from the London Shipping List: "It has been ascertained that sawdust from mahogany, to the amount of more than 300 tons, has been used in the adulteration of what is called ready prepared coffee."

Original Papers from Contributors.

PAULAR MERINO SHEEP.

MESSRS. GAYLORD & TUCKER—In a communication published in the February no. of the Cultivator, page 38, in answer to Inquirer, in reference to the Paular Merino sheep, and the feed which mine received, I said I was making soome experiments in feed, the results of which I would communicate to the readers of the Cultivator. My present object is to redeem that pledge.

My flock was divided about the first December, into four lots.

No. 1, fed corn, at the rate of 2 qts. to 32 sheep.
2, " oats and corn " 3 " "
3, " oats, " 4 " "
4, " cracked corn; that is, corn taken to the mill in the ear, and cob and corn ground together. They were fed on this meal at the rate of four quarts to 32 sheep, a part of the winter, and the remainder of the time on buckwheat bran, and the coarsest of the flour—the finest being kept for family use—at the rate of 6 qts. to 32 sheep; each lot were fed otherwise alike.

The result is, they have all wintered well. There was no perceptible difference in spring. The ewes have done equally well in rearing lambs; as I have now from my 62 ewes, which are of sufficient age to rear lambs, 62 thrifty lambs. They were all tagged before turning them out to grass; taking from each, as near an equal quantity as possible. They were all washed the same day; my men were two days in shearing them. The wool was done up and weighed in presence of several gentlemen, who pronounced it *very* clean. From the 62 breeding ewes, and 27 yearling bucks and ewes, and 1 stock buck, in all 90, the following is the result, as taken from minutes made at the time:

Lot No. 1,	16 sheep,	fed corn, ...	84 lbs.	2 oz.
" 2,	16	"	corn and oats,	91	" 1 "
" 3,	37	"	oats, ...	190	" 6 "
" 4,	21	"	ground feed,	113	" 0 "
	90			478	" 9 "

Being but 2 oz. less, on the whole flock, than 5 lbs. 5 oz. per head.

Those fed corn and oats, it will be noticed, gave the heaviest fleeces, but these, were very young bucks. The other three lots were all ewes, of different ages, and nothing in the sheep, which should give the preference to those which gave the heaviest fleeces, which are those fed on ground feed.

From the results of this experiment, I am led to believe that it is better to grind feed for sheep, as well as other animals. I intend to renew my experiments the next winter, and hope other sheep owners will do the same. I find an increasing demand for my Paular Merino Bucks, having already supplied several orders from different parts of this state and Ohio, the present season.

Permit me to say to your correspondent. Mr. J. R. Speed, who has given us an account of his flock of selected Merinoes, in the July no. of the Cultivator, that he has, in my humble opinion, acted wisely in rejecting the Saxony, and commencing a flock with Spanish Merinoes. I cannot imagine how any man can afford to keep sheep, which will yield from two to two and a half pounds of wool only

I think also with Mr. S., that the weights of the seven fleeces, an account of which he gives, are certainly "very clever." But he has not arrived "at the top round of the ladder" yet.

If he will take my word for it, which can be substantiated by several credible witnesses, who saw them weighed, I have had taken from the same number of ewes, and one yearling buck, fleeces which weighed as follows:—6 lbs. 10 oz.; 6 lbs 9 oz.; 6 lbs. 4 oz ; 5 lbs. 15 oz.; 5 lbs. 13 oz.; 5 lbs. 12 oz., and one yearling buck, 6 lbs. 12 oz , total 43 lbs. 11 oz. An average of 6 lbs. 4 oz. of clean washed wool, exclusive of tags. These were, of course, my heaviest fleeces.

Nor need Mr. S. fear, if he has got the right kind of Merinos. They will give as large a yield of wool, when hundreds are kept upon a farm, as when tens only are kept, provided they have proper feed and attention.

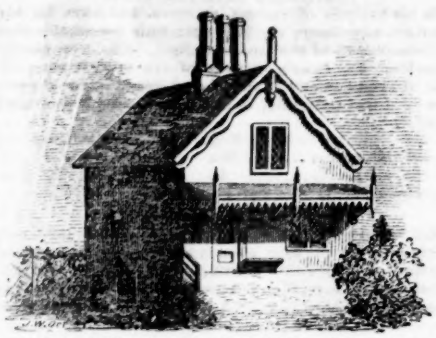
Very respectfully, R. A. AVERY.

Galway, Saratoga co. N. Y., Aug 7, 1843.

ACID IN SOILS.

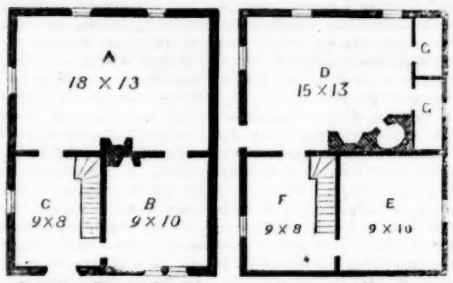
THE following may prove an interesting fact to those engaged in the investigation of this subject. Nine years ago, Dr. Button of Newark, Wayne county, N. Y., laid down in a ditch about two feet deep, a lead pipe for the conveyance of the water of a spring, on a hill distant about 150 rods from his dwelling house, to which the water was brought. The water flowed freely till the last spring, when becoming obstructed, the pipe was examined. Large portions of it on the hill side below the spring, were found much corroded, in some places quite through the pipe, which caused the obstruction. On this hill side, sorrel (*Rumex acetosella,*) grew in great abundance, and generally the most so near the corroded parts. No sorrel grew on any other part of the ground where the pipe was laid, and no other part of the pipe was in the least degree affected, but appeared as when first laid down. J. J. T.

Macedon, 8 mo., 1843.



LABORING MAN'S COTTAGE.—(Fig. 64.)

MESSRS. GAYLORD & TUCKER—I herewith send you a design for a Laboring Man's Cottage, somewhat after the old English style, with heavy projections and ornamental barge boards. I have given it the benefit of a



Principal Floor.—Fig. 65. A. Parlor—B. Sitting or Sleeping Room—C. Lobby.

Basement.—Fig. 66 D. Kitchen—E. Cellar—F. Store Room—G. G. Closets.

piazza, by throwing out a roof on brackets, without the cost of the floor and supports, thus getting a shelter from sun and storm with little expense, and I think in a way calculated to please the eye. All that is ornamental in this design is of a very cheap character, while it is calculated to produce much effect. You will perceive that this cottage requires a peculiarly shaped situation, although almost any site may be made to answer by a little labor in grading about the building. Were I to build of wood, I would enclose it with boards tongued and grooved, and put on vertically, and painted a stone color. Brick or stone, however, is preferable. On the one side, which we will suppose is the north, I have placed no windows, (except two small ones in the basement,) which will give it a naked and repulsive appearance; this may be obviated by a little trouble in training one of our creeping vines over it, and add much indeed to the appearance of the cottage. The cost will be about $700. Yours,

Chamber Floor.—Fig. 67. H. H. H. Bed Rooms—I. Clothes Press.

T. M. NIVEN, Architect.

Newburgh, March 15, 1843.

IMPROVEMENT OF SANDY LAND.

MESSRS. GAYLORD & TUCKER—The following account of an experiment with muck, is not sent because the crops are of themselves extraordinary, but as one more confirmation of its oft repeated value.

Upon two acres of pine plain land, that has produced from 15 to 20 bushels of corn per acre, (say 15 average crop,) as usually managed, was carted in the fall of 1841, about 50 loads of muck, taken immediately from a swamp near by, which I was ditching at the time. The muck was wet and the road steep; consequently not large loads could be drawn. It was laid in small heaps over the piece, and in the spring of 1842, after the frost was out of the ground, spread. About the same time, I carted upon the field stable manure, and mixed with one-third muck; also one hogshead of lime, (6 bushels,) slacked before using, in sufficient quantities for a compost heap of 25 loads. This compost, when partially fermented, was spread upon the ground and plowed in with a light plow. The ground was harrowed, planted with eight rowed white corn, and rolled with a common plank roller. The corn came up and looked finely until the heavy frost in June cut the tops even with the ground. However, it soon started and grew as before. It was hoed three times, using the cultivator between the rows. As soon as sufficiently ripened, the corn was cut and stooked; the ground plowed once and sowed to winter rye, one bushel to the acre, and harrowed in. The corn when harvested, yielded 70 bushels of ears, or 35 bushels of corn to the acre, and a fine quantity of corn fodder, which when cut and mealed, made excellent feed for my horses. On the 3d of May last, I sowed upon the ground 10 lbs. of southern clover and 8 quarts of fox tail seed to the acre, and harrowed lengthwise of the furrows. Not quite liking the looks of the field, it seeming not quite sufficiently *scratched,* I ordered it harrowed crosswise, in spite of many warnings that I should spoil the crop, being determined to know whether harrowing killed or cured. After harrowing, the ground was rolled and left until last week, when we reaped from it 32 shocks of rye, which will yield me 30 bushels—so say the reapers. The grass seed has come up, and bids fair to give a good crop of hay next season.

The question that comes up, is—"Can we afford to cultivate such lands with any extra expense or labor?" The same quantity of manure put upon the field, would not have returned me over 20 bushels of corn, and 10 of rye—30 bushels of grain in all. Now I have 35 of corn and 15 of rye—50 in all. What is the extra expense? 25 loads of muck. I can hire muck drawn for eight cents a load. If others will do it for that, I can do it for *less,* with my own man and team. Cost of muck, two dollars; add to that, if you please, the cost of the lime, three dollars: and the 20 bushels of grain has cost me five dollars. Take into the account the extra quantity of corn fodder and straw, with the certainty of a good crop of hay where nothing grew before on summer fallows and two years idleness, and the corn is nearly, or *quite,* clear gain. And have I not added to the capability of the soil? If this course of treatment add to the crop this time, will not a like course add still more next time?

Comparative value of land affords another test and answer to the question—"Can we afford it?" The best meadow lands in this vicinity, ranging in value from $60 to $125 the acre, do not yield an average crop of more than 40 bushels of corn to the acre. What they might yield, is not what we have to do with. If first rate lands yield no more, then the bare difference of interest money expended on light lands, costing $20 the acre, makes the poorer land equal in productiveness, with the very great advantage in these hard times of a small debt to pay, for those who buy on credit. There are hundreds of acres in Connecticut valley, of such light lands, and almost invariably a muck swamp or clay bed is near at hand, to be used for their renovation. So well satisfied am I with my success, that I have several acres more under a regular course of muck diet, differing perhaps in some degree from the first, but all apparently to be as successful. One piece, that yielded a crop of 6 bushels of rye to the acre last year, bears at present a fine looking piece of corn, that has stood the drouth much better than some better soils, although a part of it was blowing sand before planting.

The course that I have pursued, I do not recommend as the best one, but I have been obliged to adapt my course to my knowledge and locality. A liberal reading in the Cultivator, Dana's Manual, Liebig, &c. has had its effects already; yet as my swamp is but a few rods from the plain, and my stable yards a mile and a half, I cannot realize all the benefit that I should like. Time perhaps may remedy that. Yours, &c. A. PERRY PECK.

Sunderland, Franklin co., Mass., Aug. 3, 1843.

THE WEATHER AND THE CROPS,
ON STATEN ISLAND, JUNE AND JULY, 1843.

MESSRS. GAYLORD & TUCKER—After suffering from a severe winter and a cold protracted spring, agriculture in this region is languishing from the absence of rain. It is now more than a month since the earth was refreshed with sufficient moisture to wet the surface half an inch deep. Here where the soil is principally clayey, it is hard and dry, and baked into a crust, and that crust in some fields cracked into fissures. The crops of all kinds are consequently injured by the drouth, which extends east of us throughout Long Island and into Connecticut, and south and west of us into New Jersey.

Hay is the staple crop of this Island, and it bid fair to be a good one in the beginning of June; but it has since been checked in its growth by heat, and so dried up by a scorching sun and drying winds, that the crop of this year will be one-half less than that of 1842. In the early part of the month I thought it would be less by one-third, but by examination and inquiry among farmers, they generally admit that one-half the quantity compared with last year's crop, will be as much as they can possibly realize. This opinion has now been confirmed by some who have gathered and housed their crops of hay, while those who have done it in part, have come to the same conclusion. Mine will not be far from the same proportion. I have already gone over ground that produced *one hundred and twenty-five loads* last year, and have gathered therefrom *seventy-five.* I have yet to cut two lots of grass that produced *one hundred and eight loads* last year, and by estimate will produce *sixty.* At this rate, I shall have 135 loads this year against 233 last year, being a little more than half. My neighbor, Mr. S——y, who has heretofore cut between three and four hundred loads of hay, has gathered nearly all his crop, and he informs me that his fields will produce about half the quantity they did last year. Thus it is ascertained without guessing, and without a doubt, that this region of country, which produces much hay, will be short one-half of its last year's production.

Wheat.—The crop of wheat on this Island is generally good. The berry is pluup and fair, and the straw is light. Mine is better than it has been for two years past, but the grass seed which was sown with it, though it came up and looked well in the early part of the season, has withered and dried up with drouth, and unless we have plenty of rain in a short time to revive the roots, the crop of grass for next year will be lost.

Rye.—The rye crop in the county of Richmond is not an extensive one, and the grain is mostly for domestic

use. This year, the crop though small, is a good one, and the seed large and plump.

Barley and Oats are poor throughout the county, and less to appearance than half an average crop. After the seed was committed to the earth the latter part of April, there came heavy cold rains, followed by hot and dry weather, and the clayey soil became covered with such a hard crust that the young plants were a long time in penetrating it. Two months after sowing it, I had it in contemplation to plow and turn under both my barley and oats, but the hardness and dryness of the ground prevented it: and this day, (July 24th,) I commence reaping a poor crop of barley and oats, prematurely ripe, having been less than three months growing. These crops cannot be cradled, but must be cut with a grass scythe, and be housed in bulk. In the winter I shall run them through the cutting box, and feed the straw and grain together.

Corn.—The young plants were injured by a heavy frost on the 1st and 2d of June, and have subsequently felt the effects of hot and dry weather, but the crop generally has withstood the drouth better than other crops, and now bids fair to be a good one. But if the dryness continues it may still be poor.

Potatoes.—This crop will be a short one both early and late. The early planted were injured by frost, and then by heat; and those planted for a fall crop, were retarded in their growth by the drouth, and have begun to blossom before the plants have attained half their ordinary height.

Cabbages.—This island usually affords a large crop of cabbages by field culture, but the young plants which have been transplanted from the seed bed to the fields, are very much retarded in their growth for the want of moisture, and will produce a poor crop.

Garden Produce.—Vegetables of all kinds are injured, and some cut off by hot and dry weather. Peas, beans, carrots, parsneps, beets, melons, cucumbers and onions, are all up to this time, (July 24th,) languishing for rain.

This county, (Richmond,) surrounded by water with a wide bay and ocean on its south and easterly side, has usually a moist atmosphere, but there appears of late to be no humidity upon the land or in the air. During the driest of the weather we have not even had dew to refresh the parched earth. The ponds and the wells are drying up, and unless we soon have a copious supply of rain, cattle will also suffer from the effects of the drouth. The mowing grounds after harvest will afford no pasture, and man and beast will feel the want of rain more seriously than at present. But we are in the hands of the Almighty, to whom we must look and pray for a seasonable supply.

These memoranda are forwarded to the Editors of the Cultivator, as matters of reference hereafter. Few persons have any desire to read such facts about the weather, but they may be useful to a periodical journal as affording the means of future comparison.

The following is an abstract of the weather, beginning the first of June. The days not mentioned were generally clear, hot and dry, but sometimes cool morning and evening.

June 1st and 2d. A heavy frost, which injured the fields of Indian corn, beans, peas, and other garden vegetables.

June 3d. Cold shower with hail.

June 6th. Warm light showers.

June 11th. Light drizzling rainy day.

June 14th. Heavy rain and cool.

June 16th. Warm heavy showers, which revived the cornfields.

June 29th. Heavy squall of wind with light shower.

July 2d. Heavy squall of wind without rain, followed by a light rain at night.

July 5th. Light sprinkling of rain.

July 7th. Light sprinkling of rain.

July 10th. Threatening clouds, but no rain.

July 11th. Cloudy, with light rain. Ground parched, and crops suffering for want of moisture.

July 12th. Threatening clouds but no rain.

July 17th. Cloudy with light showers.

July 19th. Heavy refreshing shower, which continued nearly an hour.

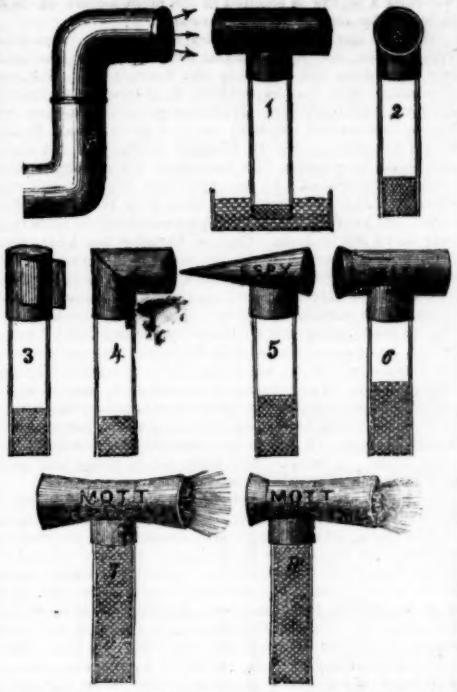
July 22d. Again hot and dry. The first perceptible effect of the rain of the 19th has disappeared, and the ground is again parched.

July 24th. Still hot and dry, and all nature in a languishing state.

From the 8th to the 18th of July, the drouth was somewhat mitigated by cloudy intervals threatening rain, but never were appearances more deceptive. It is said that all signs fail in a drouth, and so it has happened in these intervals, when myself, my neighbors, and every body who pretended to be weatherwise, predicted rain daily from the appearances of the clouds. But the clouds passed away and the rain came not, at least to this part of the island, (south side,) from which I write. The clouds might have dropped rain on other parts, but they mostly blew over in squalls, or left a light impression behind, as on the 2d, 5th and 7th July. Yet these clouds poured down rain, as we could see, upon the ocean to the east of us, and upon the hills of Monmouth co. in New Jersey, to the south of us. From your friend, and the friend of agriculture. RICHMOND.

Oakland Farm, Staten Island, July 24th, 1843.

THE Autumnal exhibition of the Pennsylvania Horticultural Society, will be held on the 20th, 21st and 22d of September.



CHIMNEY CAPS AND VENTILATORS.—(Fig. 68.)

MESSRS. GAYLORD & TUCKER—To test the real value of the various Chimney Caps and Ventilators in use, I have made, during the past twelve months, many experiments, in most of which I have been assisted by Thomas Ewbank, Esq. of this city. Many caps were sent to me for trial by others. The experiments were witnessed by members of the American and Mechanic's Institutes, and several other scientific gentlemen, who were much interested, and expressed their surprise at the results.

Trials were made in the following manner:—A glass tube of 1 inch bore and 18 inches long, was provided; on the top of this tube the various caps were placed; the lower end of the tube was immersed in a vessel of water, the upper end with the cap, each in turn, was placed in the blast produced by a blowing apparatus driven by a six horse steam engine, used for melting iron in my foundry at Morrisania. The blast was through a six inch pipe contracted to three inches, the caps being placed about 12 inches from the pipe, so that the wind could have free action on the outside as well as inside of those caps that were hollow.

More than one hundred caps were tried, consisting of the various kinds in use in this country and in Europe. The experiments were repeated several times with the same results. The mode of experimenting is here illustrated. *A.* represents the blowing pipe.

The results with the better kinds in use, were as follows: (the dark part of the tube showing the height the water was raised:)

No. 1, is a common T, with the cross pipe of a continuous diameter. When the blast was directly through the cross pipe, it had a tendency to depress the water in the glass tube.

No. 2, is the same cap turned at a right angle to the wind, when the water rose from 1¼ to 2 inches.

Note.—These two experiments will explain why, in some instances, the brick arch or hood on the top of a chimney will in some cases prevent smoking, and in others entirely fail. If the adverse wind blow against the open end, the chimney will smoke worse than if without a cap; if it blow against the side of the arch, the smoking will probably be obviated.

No. 3, is a well known and common cap. With this the water rose from 2 to 2¼ inches.

No. 4, is a common elbow, with the blind side to the blast. The water rose from 1¼ to 2 inches.

No. 5, is the conical ventilator, with the point to the wind. The water rose 3¼ inches. This cap was tried with the side forming a right angle with the blast: in that position the water rose 5 inches.

No. 6, is a cap much used and highly prized in Boston and other places in the eastern states. It has a small tube in the end next the blast opening in the large cross cap, as shown by the cut. With this the water was raised 4½ inches, which was higher than any other (except with the cone, when placed with its side to the wind,) previous to the trials with 7 and 8.

No. 7, it will be seen is two conical frustrums, joined at their smaller ends to a center cross pipe. With this cap, either end to the wind, the water rose to the full length of the glass tube, 18 inches, and was blown out the opposite end. Trial was made again and again with this cap, at a right and other angles to the blast, and in every instance the water was raised from 7 inches upwards. A board was placed behind, on the side, and in every mode, to break or deflect the blast, yet the water rose in the tube. This is a very simple cap, easy of construction, and not likely to get out of order, as it differs from most others in being stationary.

No. 8, is a single conical frustrum, with the smaller end to the wind: the effect was the same as in No. 7. With the open end to the blast, the water was raised the length of the tube, and blown out the opposite end.

Having the apparatus by which the above experiments were made ready for use, I will cheerfully loan it, furnish the size of the ferule, and grant any facility to any person who may have a cap that he thinks will answer the purpose of a ventilator. JORDAN L. MOTT,

New-York, Aug. 1843. 264 and 266 Water st.

THE SILK BUSINESS.

MESSRS. GAYLORD & TUCKER—It is scarcely admissible of a doubt, that the United States will yet be largely engaged in the manufacture of silk. The best varieties of the mulberry will flourish well throughout a large extent of our territory, and the worm is every where easily reared. Land of the best quality may be had cheap, in locations where the climate is most favorable to the worm and the tree. But there have been, and still are, some obstacles in the way of a successful prosecution of this business. These obstacles may be chiefly enumerated as follows:

1. Having derived our silk fabrics from foreign countries, we are at present unacquainted with the manufacture, and cannot engage in it without the risk and liability to loss, which always attends an undertaking that has not the light and benefit of experience to guide its operations. Partial failures and losses, are frequently, if not generally sustained, in the commencement of a business in which the operator has no experience, even where the most perfect success is ultimately attained. The losses and failures attending the outset of a business, are therefore no evidence against its final success and profitableness.

2. The labor required both in feeding the worm and in the manufacture of the silk, is very much cheaper in those countries which have heretofore supplied us with silk goods, than it is here; and this cheapness of labor, added to the comparatively low rate of interest on capital in those countries, allows the foreign article to be brought into our markets and sold at so low prices, that our people dare not incur the risk of starting the business here, without some additional guaranty against loss in the beginning.

These, I believe, constitute the principal objections to the silk business in this country. Now, how can they be removed? or would the business be of sufficient benefit to this country to justify an effort to remove those objections, and establish the manufacture among us? I think it can hardly be doubted by any one, that the successful establishment of the silk manufacture in this country, would be a national benefit. Our annual purchases of this description of goods, averaging some twenty millions of dollars, are of necessity paid for chiefly in specie, because the foreigner wants few or none of the products of our soil and labor, and if we buy of him we must pay the *cash*. By manufacturing these goods here, we save the money at home, and distribute it among our laborers—adding to their comfort, and aiding them and our country to true independence.

Let us then consider the objections and their removal. The absolute certainty that this branch of industry, in all its departments, is perfectly practicable here, and the certainty, also, that if once established it would be beneficial to the country, are, it seems to me, reasons sufficiently strong to justify the government in extending to it a special protection—such protection or encouragement as would furnish inducement to undertake the business, and afford some guaranty against the liability to loss attendant on an untried enterprise. Excepting in the outset of the business, while its various processes are not understood, and the best mode of management has not been discovered, it is confidently believed that no extra protection will be needed. It is thought by those who have had the most experience in the silk manufacture here, that if we can once make a fair beginning, and be indemnified against lost, we shall, by the use of improved machinery, and by adopting better and more simple modes of manufacture, be fully able to produce silk fabrics as cheaply as they can be produced in any part of the world. I will offer some practical proof of the soundness of this idea. It is well known that in the cotton manufacture we have made such improvements in machinery, that we are now able to supply some articles at a lower price in the foreign markets, than the English manufacturer can sell them. Low as the foreign operatives are forced to work, the manufacturer cannot bring his animal machinery into successful competition with the machinery invented by our ingenious mechanics. But without a protection in the *beginning*, the cotton manufacture could not have been established in our country, and this improved machinery, which has so much cheapened the price of cotton fabrics, would never have been invented. It is believed that the same results will follow the establishment of the silk manufacture, that have attended that of cotton. In countries densely populated, where the laborer is anxiously seeking employment for a mere pittance—(a *subsistence*, in many cases it can hardly be called,)—there is no inducement to substitute machinery for manual labor. In fact, if such an attempt was made, it would, by depriving the poor laborers of the only means they now have of procuring sufficient sustenance to support life, occasion revolutionary violence,—and the probability is that the machinery, if not the owners, would be quickly demolished. It is, therefore, to be expected that in those countries where labor is cheapest and population most numerous, implements and machines will be least used, and the few that are

used will be of the most rude construction. Here we have every inducement for the invention of labor-saving machinery, and our vast extent of unoccupied territory, and our almost unlimited capacities for obtaining the means of subsistence, will continue this inducement for ages yet to come.

The inventive genius of our people has shown itself in every branch of business in which they have ever engaged. As soon as any kind of business is understood, so that they can see what is required, improvement in the process, and the substitution of machinery for hand labor, is sure to commence, and go on till it reaches the ultimatum of perfection.

I have lately visited the silk establishment of Mr. Jno. W. Gill of Mount Pleasant, Jefferson county, in this state, and having obtained from him and his superintendent, Mr. Fox, some facts which may be useful to the public, I herewith offer them to you for publication.

Mr. Gill commenced the silk manufacture in 1838, though for the first two years his operations were not on a very extended scale. He has since that time been constantly enlarging his business and improving the quality of his fabrics; while at the same time great improvements have been, and still continue to be made, in the construction of machinery. As fast as a knowledge of the business is acquired, improvement in the machinery, by which a saving of labor is effected, as well as the manufacture rendered more complete, commences and progresses.

I present a brief summary of the improvements which Mr. Gill has adopted. The items were furnished principally by Mr. Fox.

By the use of what Mr. G. calls his "*Improved Feeding Tent*," there is a saving in building of 75 per cent. This "tent" is very cheap and simple, and answers the purpose admirably. It is made by setting up in the ground three ranges of posts, of suitable length to give sufficient height, (common cheap scantling do well enough,) and making a *shed* roof, by laying on boards or plank, and fastening them with weight poles. The sides are rough boarded to within five or six feet of the ground. Strips of canvass, or any cheap cloth, so fastened as to admit of their being raised up or let down at pleasure, constitute the remainder of the covering. The hot sun is thus excluded, and air readily admitted by throwing up the canvass on the shady side. Range the tent north and south, and in the forenoon leave the west side open, and in the afternoon the east side.

2. By the use of an improved apparatus for feeding, called the "*Silk Worm Ventilating Cradle*," a saving is made in the labor of feeding, cleaning, &c. of at least 50 per cent. This "cradle" is a very novel but simple and cheap apparatus, for which Mr. G. has obtained a patent. It will undoubtedly take the place of all other modes of feeding silk worms. The cradles are twelve feet long, a foot and a half wide at bottom, and five feet wide at top. At the bottom is a trough, which is set in three large rockers. To this trough is fastened one end of the lath, which constitute the sides of the cradle. Over the top of the trough, is placed a rack to support the worms. Straw, or small twigs of the mulberry, properly placed, may take the place of the rack. This may be said to constitute the bottom of the cradle, and here the worms are placed when they have attained sufficient size to begin to feed with branches. They are not again changed —as they increase in size and are brought upward by the accumulation of branches, the gradually increasing width of the cradles affords them ample room—the cradles being so graduated that the same number of worms which will cover the bottom when they are young, will just fill them when they are full grown. By rocking the cradles, the excrement of the worms, and all filth, falls into the trough and is washed out by turning in water at the end. The rocking also effectually changes the air about the worms, and effects a healthy circulation—hence title of "*ventilating cradle*." Mr. Gill assures me that he has in no instance lost on this plan, five per cent of the worms, from the time they were placed in the cradles till the cocoons were made. In fact, he offers to let any one have his patent for one-half the extra quantity of cocoons that can be made on this plan, over the quantity which can be produced from the same number of worms fed on any other plan. The worms spin their cocoons among the upper branches, which are perfectly clean and afford every facility for spinning. Each cradle of dimensions given, will accommodate about 10,000 worms. Their cost is about $2 a piece.

3. "By using," says Mr. Fox, "the principle of Dr. White's throwing machine for the first twist, in our new machine of 150 spindles, we save over 25 per cent in the preparation of the thrown article." This most valuable machine, which Mr. Fox, who was bred to the silk manufacture in Europe, thinks is superior to any thing of the kind in the world, performs five operations at once, viz: reeling, winding, twisting, doubling, and finishing for sewings or organzine. Mr. Fox states that "a female of 14 to 16 years of age, can keep in constant operation one of these machines of 150 spindles, and twist silk varying in quality, from 4 to 16 fibres, from 16 to 40 lbs. per week. (It is proper to remark that this machine has been brought to its present high perfection, in a great measure, by the ingenious labors of Mr. Ezekiel Harris of Mount Pleasant.)

4. Mr. Gill has an "improved *Rejinear* for cutting and repeating cards to any pattern, for the French Jacquard looms—for machines varying from 100 to 1200 cards, and performing *six operations over the European kind*."

5. Mr. Gill has also an "improved mode of putting flowers on silk goods without the use of a tissue shuttle, whereby a saving is effected in the manufacture of brocades to the amount of 25 per cent."

Mr. Gill has now in operation nine looms, viz:—one velvet loom, one satin do., one nett do., one figured do., one plain dress silk do., one handkerchief do., one for Florentine and Mantua, and two for gloves, under shirts, drawers, and stockings. He employs in the factory 20 hands, besides one engineer and two machinists. In addition to these, he has 12 females in various families, employed in spinning *silk tow* from the damaged and "cut out" cocoons. In the mulberry grounds and cocooneries, there are employed from 6 to 10 hands. He raised last year 76 bushels cocoons—expects to raise this year 96 to 100 bushels. Cost of cocoons last year, exclusive of interest on capital invested in 30 acres of land devoted to the mulberry, &c. $2 40-100 per bushel. The cost will this year be considerably less, as he is enabled by the more general use of his improved modes of feeding, to make many more cocoons with the same labor. Mr. G. has heretofore fed chiefly with the Italian and Multicaulis mulberry, but is intending to try the Canton another year. This variety is considerably used at Economy, Pa., where there is quite an extensive manufactory of silk fabrics, under the general supervision of Miss Gertrude Rapp. I visited this establisment two or three years since. I believe they made six or seven thousand dollars worth of goods there last year.

In regard to the best food for worms, Mr. Fox, who has had much experience in the business, and is a man of remarkably close observation, advises to use the Italian mulberry for the first and last stages. If there is not sufficient foliage of this variety to furnish the *entire* food of the worms, about half Multicaulis may be safely used with the Italian, *from the second moulting till a week before spinning*. Use no Multicaulis for the first and last stages, if a sufficiency of the other can be had. Mr. Fox's recommendation is seconded by several others who have fed with the Multicaulis and other varieties of mulberry.

Mr. Gill made and sold last year, between nine and ten thousand dollars worth of silk goods. This year he hopes to manufacture twelve or fourteen thousand dollars worth. Upon the whole, he has been very fortunate in the prosecution of this enterprise. But he has had some advantages which are within the reach of only a few. He has an ample capital, which has enabled him to manage to the best advantage in the purchase of stock, payment of labor, &c.; to provide at once the best machinery, and to wait without inconvenience, till he could so far establish the business that profits would be realized; and lastly, his *good fortune* has been more conspicuous than perhaps in any thing else, in securing the services of the two Messrs. Fox, senior and junior. The thorough acquaintance of these men with the silk manufacture, their knowledge of machinery, and tact in business management, have been of very great benefit. In all these things, however, Mr. Gill has had advantages for successfully engaging in the silk business, which but few can have, and hence it is, as was remarked in the former part of this article, that without some special encouragement from the government of either the states or nation, the people will be debarred from entering into the business, from their general inability to incur the risk incident to commencing the experiment.

Mr. Gill pays his operatives good wages. Girls of 8 to 10 years of age get a dollar a week, and those of 14 to 16 get a dollar and fifty, to a dollar and sixty-two cents per week, they boarding themselves. Their work is light, and they make short days; working only ten hours at any season of the year. This gives considerable time to be devoted to other labor, or to books. So that judging from this example, we need have no fears that the introduction of the silk manufacture will be injurious to the body or debasing to the mind.

I send you herewith, a small sample of one of the colors of the silk ordered by the government from Mr. Gill, for the purpose of making a flag for our Chinese Embassy. The flag contains 152 feet crimson, (like the sample sent,) 15 inches wide; 126 feet white, same width, and 2¾ yards mazarine blue, 45 inches wide, for stars.

I consider it not only a high honor to Mr. Gill, to be the manufacturer of the first silk fabric ever sent from this country to China, but it is an honor also to our *Buckeye state*, that he is one of its citizens! The quality of the fabric, you will perceive, is such as will show the *Celestials* that the *barbarians* of our new country are at least *beginning* to practice the arts of *civilization*.

SANFORD HOWARD.

Zanesville, Ohio, Aug. 3, 1843.

SCRAPS AND PATCHES.

MESSRS. GAYLORD & TUCKER—I was highly gratified to see in the July Cultivator, a notice of an "Agricultural Institute," which was under contemplation by the Rev. B. G. NOBLE of Bridgeport, Conn. I sincerely hope that Mr. Noble will meet with such success that he will be able to go forward at once with this noble enterprise. I have for some time past thought of the great importance of such a school, and I should be very glad myself, did circumstances permit, to attend such a school for one or two years. And I would recommend to our young men who mean to take up agriculture for their future business, and should their means allow, to avail themselves of this "Institute," and there learn the great business of farming, and also the other branches of a good education.

Under the head of "Foreign Intelligence," you say that you have been often tempted to commence a Foreign Journal of Agriculture, which should embrace all the most important papers of the foreign magazines. I think, as you do, that such a magazine, if well conducted, would meet with success. The high price which foreign agricultural journals come at in this country, place them out of the reach of the great mass of our farmers. But could a republication of the cream of these journals commence in this country, we think it could be afforded at half the original price. For instance, Blackwood's Magazine is republished in the form of the New World, and is afforded at $2,00 a year, whereas the original publication costs five or six dollars a year. The mass of reading which these journals contain, would afford a rich treat to our farmers, and I hope that you will continue to think of this subject, and lay it before your readers, as I have no doubt but that you would meet with such success as would enable you to commence it at some future day.

I was sorry to notice in the June Cultivator, the death of James M. Garnett. In his loss, the cause of agriculture in particular, has lost a great friend and advocate. And the readers of the Cultivator too, will miss his papers, and particularly those signed "Commentator," which have been so ably written. Since the death of Judge Garnett, I have thought that some one of your numerous correspondents, who has had age and experience in every branch of agriculture, should step into "Commentator's" shoes, and act as a reviewer of the articles in the Cultivator, from month to month. I hope that some one will think of this matter, and act accordingly.

What has become of your correspondent, L. A. Morrell, the sheep breeder? I have not had the pleasure of seeing his name in the present volume of the Cultivator.

Yours truly, L. DURAND.

Derby, Conn., July 31, 1843.

CRUSHING CORN—CORNSTALKS.

MESSRS. GAYLORD & TUCKER—I do not intend passing another winter without a corn and cob crusher. During the winter of 1840-41, I hauled my corn to a bark mill, run it through, and then hauled it ten miles to a grist mill, and got it ground coarse, and never but in one instance did I get my grist without going twice for it. This you will say was paying dear for the whistle, and so it was; but I thought it paying dearer still, to see my working cattle voiding unmasticated, full one-half the corn they ate.

In 1841-2, I hauled my corn to a steam mill in town, and paid one-sixth for toll, besides paying $5 to get the thing started; and I foddered 26 head of cattle and young horses on cornstalks, cut up at the roots before frost, on to which, after being run through a patent cutting box and well wet, was put from two to four quarts per day to each head, of corn and cob meal. My cows gave milk all winter, and nearly up to calving; and all my neat stock, with one or two exceptions, would, if any accident had happened to them, have been ready for the butcher.

I saved $400 in wintering my stock, admitting hay to be worth $14 per ton, which was the case here that winter. I have a portable horse power which I think will turn the crusher, and stormy days in winter, my help can be employed in grinding, instead of keeping under the feet of the women, who must necessarily be employed about the house. Yours, truly, J. W. SMITH.

Maumee City, O., 1843.

P. S. Will the gentleman of "Hereford Hall," please favor me and the public, through your paper, with the particulars respecting his mode of raising calves, and especially the manner of making flax seed jelly, from the beginning until it is ready to feed. Will ground oil cake do as well? J. W. S.

BREAKING HEIFERS.

MESSRS. EDITORS—When I sent my last article to the Cultivator, I intended to let my pen rest awhile: but noticing an article in your last no. on the subject of "Breaking Heifers, &c." it occurred to me that my experience might aid a little on that point. Your correspondent is correct in saying that a "deep milker may be of little value to the dairy, if inclined to kick over the pail as soon as you get it full." Some two or three years since, I had a thorough trial with a kicking heifer; it was not only a *thorough* but a *sore* one, as some of the blows inflicted on my person, caused pain for near two months. Various means were resorted to to break or coax her to good behavior, but none proved effectual. Being determined not to yield to the slavery of tying a cow at every milking, she was given up as a hopeless case. Having a number of valuable heifers, and recollecting the remark that "an ounce of prevention is worth a pound of cure," I began at an early day, a course of gentle handling and imitation milking; hoping that when they should come in, the breaking process would be accomplished. And this I found to be the case—my hopes were fully realized. Perhaps the like result might not follow in every instance; but there can be no reason to doubt that in nine cases out of ten, the above course would prove successful. One of my neighbors intimates to me, that in giving you an account of what I considered the remarkable growth of a pear tree in a single year, that I was understood to say the tree grew 30 feet perpendicular! That would be a wonder, truly! The fact, as intended to be expressed, was that the aggregate of all the branches amounted to that. Respectfully yours,

Clinton, N. Y., July, 1843. G. BUTLER.

ON THE MANAGEMENT OF DAIRY COWS AND CHEESE DAIRIES.

BY ALONZO L. FISH OF HERKIMER CO., N. Y.

(Concluded from page 131.)

It is difficult to give a regular system of directions for manufacturing cheese, which will apply to every one's circumstances, as there are many minute items which have their chemical agency in the process, whose concert of action is varied by many incidental causes. The nature and condition of the cows, the quality and treatment of the soil, the varieties of food from which the milk is formed, and the temperature of the weather, may vary the common properties of the milk so that it would be impossible to adopt a method which would make the same quality of cheese from the milk of every dairy, or even from the same dairy.

Yet I think a regular systematic course of feeding cows summer and winter, so as to keep them vigorous and not easily affected by the asperities of weather, keeping them cool in warm weather and warm in cold weather, and milking at regular equal hours, and feeding with a view to keep up an uniform flow of milk, will do much towards keeping an equilibrium in the common properties of the milk, and thus prepare it for a systematic process of digestion, which would save the dairywoman much unjust censure. To have this arrangement more complete, the room for making cheese should be an under ground room, with stone walls and floor, which should be pointed with water lime, and so constructed as to control the temperature in cool weather during spring and fall, also through the heat of summer.

The rennet, if properly saved, generally contains the same common qualities, and will always produce a like effect upon the common properties of the milk, if aided alike by its principal chemical agent, which is *heat*. It is therefore necessary to first bring the whole quantity of milk to an equal temperature. It is a common practice to put a part of the evening's milk into a vessel and warm it sufficient to produce the necessary equilibrium of heat when mixed with the balance of milk. In this process the milk is often heated from 100 to 120 degrees, which is a great error and a serious one, as this is the first step that is generally taken in making cheese. The heat of milk and curd should never be raised above 96 or 98 degrees for making cheese. It is well known that overscalding curtails the usual quantity of curd. This is occasioned by a separation of the oily or animal properties of the milk by excess of heat, and always takes place when heated above the natural temperature of the stomach and milk, which is about 96 or 98 degrees.

Heat is an active chemical agent in consolidating the constituent parts of bodies, but it is also still *more active* in decomposing them when used to excess. If there is danger of a certain degree of heat overcoming the equilibrium of chemical attractions, after the more solid properties of the milk are collected into curd, (which I admit,) there is a greater danger of the same degree of heat overcoming those attractions in heating the milk, when those solid properties are floating at a greater distance from each other, and cannot have the same cohesive aid to guard against it.

A very slight observation in an experiment of this kind, will satisfy the querist of the truth of this position. It is therefore necessary that the whole quantity of milk should be carefully and equally warmed, by stirring it continually, so that no part of it shall come in contact with too much heat, which would separate the light oily parts of the milk from the common mass. This quality of the milk (which is the fat of the cheese,) cannot be united with the common mass after being separated by heat. It will then be found in the cream of the whey. If more of this article is left in the cheese, less will be required upon the *surface*.

When the milk is thoroughly warmed to 90 degrees, and placed in a tub or vat, a sufficient quantity of rennet should be thoroughly mixed with it, to coagulate in 40 minutes. A large quantity of rennet should not be soaked at once, as it will be difficult to keep it pure.

If in warming the milk, the proper temperature has not been attained, it may be regulated by a few gallons of warm or cold water, as the case may require. When warm water or whey are used about the milk or curd, over 96 degrees, it should be immediately equalized through the whole mass, so that those parts which come in contact with it first shall not be overheated. This *overheat* should be cautiously guarded against where there is the least chance for its effect. When the milk is coagulated so that the whey will settle clear, in a cavity made by putting in the finger or hand, it should be carefully broken up with the hand with as little rinsing as possible. One person to every 30 lbs. cheese, is necessary to be engaged in this process, in order that it may be performed in due time and in a careful manner. It should not be left after it is commenced, until it is worked down fine, and even so that the scalding process will operate equally upon the whole.

I am aware that *one* person will stir up a large curd, and make more motion in the tub than *several*, but I want no "duck playing" in my cheese tub, with milk or curd. The curd should be made fine with as little motion as possible, while there is sufficient heat for the coagulator to continue its effect. In the process of breaking up curd, there are numerous small particles that get disengaged from the common mass and float about in the whey. But if the mass is kept at its proper heat, and they are not rinsed off in the whey, they will again cohere. It is necessary that the curd should be made fine, so that it will cook equally in scalding with a moderate heat, which should not be allowed to fall below 86 or 88 degrees during the process of breaking up. After working it 30 minutes, the heat may be gradually increased while working it by adding whey; cautiously observing the degree of heat, and mixing equally as above directed, until it is of an uniform heat of 96 degrees, and keep it at this heat for 30 minutes, during which time a perfect equilibrium of heat should be kept through the whole by stirring it moderately and keeping it from cohering into a mass; it will then be thoroughly cooked and not scorched. Whey should be drained off, and one pound of Salina salt added to 50 lbs. of curd; mix it thoroughly and put it in press; in four hours change the cloth and press 12 hours; change cloth again and press 12 hours, which will be sufficient. The press hoops and cloths should be kept sweet by scalding; weak lye may be used with good effect in cleaning them; strict care should be taken to keep the pails, tubs, &c. perfectly sweet, as it is impossible to make good cheese from milk that is changed. It should be the first object of the dairy woman to preserve the milk perfectly sweet until the curd goes into the hoop; even then, if the cloths, press, hoops, &c. are rancid, it will effect the flavor of the cheese, and cause a rough rind, &c.

After pressing sufficiently, the cheese should be taken out, and stand upon a table two hours, to dry the rind and receive a coat of grease, which should be applied hot, to penetrate it and make the coat impervious to flies and air. The cheese should then be daily turned and rubbed, and occasionally oiled with whey butter. This is the best oil to use, as it is a constituent part of the cheese, and will not become so rancid as lard or other animal oils.

Cheese shelves should be kept free from any thing rancid, and the room should be kept thoroughly cleansed from rancid air, and of a temperature not to exceed 70 degrees; as an excess of heat would make smart rancid cheese. A fine firm quality of cambric should be used for bandaging cheese; it will immediately form a coat impervious to air and flies, (if thoroughly oiled,) and preserve the rind clean and tender, and cause less waste in the rind.

If the curd is not broken equally fine, in scalding, some particles will be cooked too hard, while the coarser grains will not be cooked through, and in breaking them will be found to contain fluid which cannot be pressed out, and will remain to ferment and make rancid bad cheese. In short, curd must be worked fine and evenly, and thoroughly cooked, to make good cheese: which may be done by making it fine enough and scalding it long enough at 96 degrees, which will not overheat.

If a cheese is desired very mild and destitute of smartness, this quality may be lessened by taking the animal heat out of the milk before it is manufactured, and by cooling the curd before salting. But cheese thus made will not cement together so solid in pressing, and will require more care to preserve them, and a longer time to cure. The variation necessary to be made in the shape, consistency and flavor of cheese, to fit them for different tastes, change of climate, and safe transportation to foreign markets, may be made by the skillful use of salt, which is the grand regulator and preserver after it is pressed. I therefore advise that cheese be well salted, as a general rule; for there is more loss to the consumer in one cheese lacking in salt, than in ten that are salted rather too much. Cheese that lack salt will be soft and elastic, and its properties will be easily dissolved when exposed to a high temperature, for want of a sufficient body, and will be found to leak out the richest part of the cheese in a sort of oil, after they are cured: consequently a bad unsafe article to export to distant markets.

But cheese that has plenty of salt and is well manufactured, will have a firm body and smart taste, and bear exposure in a high temperature without leaking out their best substance, and may be safely exported.

I will now submit the result of my operations with 20 cows the present season, according to the directions hereinabove given, commencing on the 19th day of April, with 16 cow's milk. On the 19th of April we commenced making cheese with the milk of 16 cows; on the 10th of May the milk of three more was added, and on the 10th of June the twentieth cow was added.

As feeding whey to cows, which is usually fed to swine, shifts a small profit, as I have practiced, I will allow the value of 25 lbs. of marketable pork, which is as much as is usually realized from the whey of a single cow in one season. I also charge all roots and grain feed used, at their fair market value, together with 400 lbs. of cheese per cow for the season, which is as much as the same cow would make upon the same hay and grass only.

500 lbs.	pork, say at	4c.	$20.00
8,400	" cheese, at	6¼	$520.00
60 bush.	mangel wurzel,	1s.	7.50
67 "	potatoes,	18c.	11.46
15 "	corn,	4s.	7.50
10 "	barley,	40c.	4.00
80 "	wheat bran,	11c.	8.80
			$759.26
Whole amount of cheese made to date, commencing on the 19th of April, as stated above, 11,300 lbs. at 6½c.			$734.50
Allow for extra quality, half cent,			56.50
			$791.00

Making a balance of $211.74, in favor of the above mode of treatment, and leaving the cows in full flesh and vigor, to protract the fluency of the milk till late in the season

A. L. FISH.

"This may certify that I have manufactured the milk of A. L. Fish's dairy into cheese the present season, and have carefully weighed the whole amount up to this date, and find it to be 11,603 lbs. of present weight, (except 1,281 lbs. weighed at market,) also 96 lbs. of butter, which was made previous to April 19th, at which time cheese making commenced. Witness my hand, Oct. 20, 1842.

WILLIAM C. YOUNG."

By request I extend a report in full of the management of my dairy since the Fair, till the close of the milk season, which is about the first of January, in connection with the above report, and the result is as follows, viz: On the decline of grass my cows were fed once a day for 20 days, with green corn sown broadcast, as a matter of experiment, which succeeded even beyond my anticipations; also three-fourths of an acre of beet tops. On the approach of cold frosty nights and through cold storms they were kept stabled, and kept dry and clean. As soon as grass had lost its nutrition by frequent freezing, they were fed plenty of hay after feeding the corn and beet leaves; they were fed regular at morning, each cow with a pail full of slop before feeding hay, which would afford them sufficient drink till midday. At 10 o'clock, A. M. they were turned out to get water, and exercise, to remain four hours, if the weather was mild; if not, put back again in the stable immediately after getting drink, and fed with hay; after eating hay, were fed with a peck of roots each, at evening, which tends to equalize the moisture in the stomach, with the dry hay. The slop was made by putting three quarts of barley meal, or four quarts of oat meal for each cow, into a large tub or vat, and add hot water enough to make a pail full for each cow, with the whey of the cheese being added, and covered tight to prevent an escape of the gas in fermentation, and thus remain 24 hours before feeding. This is fed in the morning, before feeding hay, to equalize the moisture in the stomach, and also disposes the cows to give down their milk freely, which is very necessary at this season of the year.

The whole amount of roots and grain fed to cows during the operation, is as follows:

	Amount fed in Spring		
67 bush.	potatoes, at 18c.		$11.46
60 "	mangel wurzel, at 1s.		7.50
15 "	corn meal, at 4s.		7.50
10 "	barley, at 40c.		4.00
80 "	wheat bran, at 11c.		8.80
	Amount fed since Sept. 1st.		
29 "	barley, at 3s.		10.88
81 "	of oats, at 18c.		14.58
400 "	mangel wurzel, at 6d.		24.00
Sown corn and beet tops, ...			15.00
			$103.72
I also charge the cows with 30 lbs. of pork each, which would have been made by feeding the whey to swine, 600 lbs. at $3 per hundred, ...			18.00
I also charge them with 500 lbs. of cheese each, as a quantity they would have made from the same hay and grass only, at $5,50 per hundred, which is ten thousand, ...			650.00
4 calves sold at 3 days old, ...			5.50
16 deacon skins at 2s. 6d. each, ...			5.00
Whole amount of indebtedness for the season,			$782.22
	Cows credit.		
By cheese delivered to S. Green, Nov. 17th,		lbs	10,515
Am't of cheese weighed at home, Dec. 1st,		"	2,670
" " made after and weighed when taken from the press, ...		"	811
96 lbs. of butter was made before the 19th of April, when cheese making commenced, and 205 lbs. made after cheese making, in all 301 lbs., equal to double the amount of cheese, ...		"	602
		"	14,598
I deduct 400 lbs. for use of the family cow, from June 20th till Nov. 1st.		"	400
Whole amount of cheese from 20 cows, ...		"	14,198
Credited at $7 per hundred which is the net price received for it, ...			$993.86
By 4 calves sold at 3 days old, ...			5.50
By 16 deacon skins at 2s. 6d.			5.00
			$1,004.36
Cows indebtedness, ...			782.22
Thus showing a balance in favor of a systematic mode of treatment, of.			$222.14

I charge the cheese at $6¼ and credit it at $7, because the latter was the net price obtained, and because I think cheese made from cows under such a course of treatment, especially in the two first and two last months in the season, is worth to the consumer half a dollar per hundred more than that made from hay in spring, and fog and moonshine in the fall.

My cows are now in high flesh, in calf, and in proper condition to commence the milk season again the first of April next, without being fed any thing more than plenty of good hay, until they make milk again. The average age of my cows is nine years; color, red; native breed, some mixture of Holderness; their build low and heavy, with strong muscular system, and thought by most dairymen to be so even to a fault, with a strong development of vital apparatus.

This latter quality will be found by the enterprising

dairyman to be an essential requisite; as the power in animals to prepare the greatest quantity of nourishment from a given amount of food, depends much upon the size of the lungs, the organs of digestion being subordinate to them. The cow must have room enough in the girth for a predominance of vital apparatus, for the lungs and heart to play, or sufficient nourishment will not be furnished for a fluency of milk, and to supply the muscular system with strength to endure the frequent and extreme changes of weather in this climate without being subject to disease. A large sagging paunch or belly and small loin, with a comparative small and flat girth, is a disproportion in the shape of the cow, and indicates a general weakness in the constitution, providing her with a large store room for food and a lack of sufficient apparatus to digest it without a waste.

With these views, I have made the girth the first point to be considered in the purchase of a cow; the chest is capacious in proportion to the girth, and its cavity diminishes with the increase of its conical or flattened form. This may be simply demonstrated by flattening a ring or circle till its diameter is reduced to nothing, without diminishing its circumference; thus proving the girth of an animal no certain proof of its comparative size, without particular reference to its elliptical form. The chest of a cow should be conical, widening backward to the last rib, with broad heavy loins, heavy hind quarter, udder set well forward, teats of good length and well separated, with large milk veins, which indicate a strong vascular system; with a flat loose shoulder, neck if thick not deep, clean head and horns, with bones in the frame uniformly flat and wide, strong muscles not closely connected with the bone or skin, the skin good thickness and mellow, hair soft if not fine. These are the qualities which I have endeavored to find in cows that I have selected for my dairy, as best calculated to keep up a uniform fluency of milk early and late, and bear a drift without disease or excess of feed.

Breeding heifers with a view to improve the milking qualities of our dairy cows, is a matter of no small importance to the dairymen of this county. Frequent attempts have been made to improve our native breed of cows, by mixing them with high fed overgrown bulls of foreign blood. But to accomplish the desired object by such a practice, would be reversing the order of nature; as the fœtus of such sires requires more nourishment to perfect the form and constitution of the offspring, than our common dairy cows can furnish them.

I will not go further into detail of this matter now, but will invite the attention of the enterprising dairymen and breeders, to the more thorough investigation of this branch of agriculture, in hopes that we may have more light shed upon the subject at our next annual Fair.

I submit these imperfect views for examination, not from the pen of a learned, but thinking farmer.

Litchfield, Oct. 19, 1842. A. L. Fish.

PLATT'S PREMIUM PORTABLE MILL,

For Grinding all kinds of Grain, Spices, Drugs, Paints, &c.

Messrs. Gaylord & Tucker—We take the liberty of sending you this communication, knowing that you take a warm interest in any really valuable improvement of machines or machinery calculated to benefit the agriculturist. We deem it too, an act of justice to the public, to make known any improvements of the kind which are of general interest.

The above machine accidentally came to our notice last winter, through the medium of a southern correspondent. We became apprised that Mr. Josiah Platt of Weston, Connecticut, was the patentee, and had exhibited the mill at the American Institute in this city, last autumn, and received the first premium; since which time it has been most successfully introduced into several of the states, and the demand for them promises to be almost unlimited.

We have, within a few days, had the pleasure of seeing this mill in operation: and we are convinced, as are all who see it, that it is a machine much needed by, and will be in general use among farmers and millers, wherever it is once introduced and known.

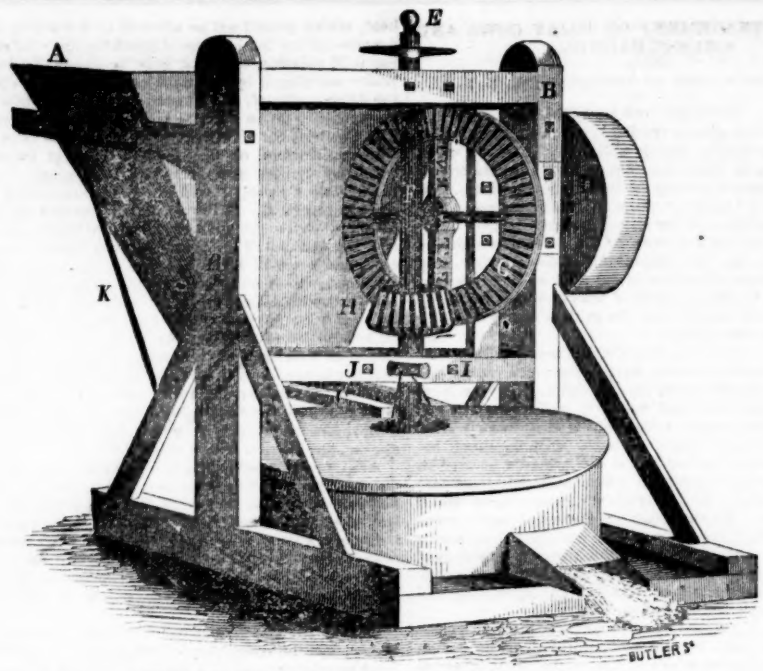
It is admirable for grinding Indian corn and horse feed. Grain of all kinds is ground with equal facility. Also coffee, and all kinds of spices; also salt, drugs, &c. and it is easily adapted for grinding paints. Its durability is equal to any other mill, the stone being composed of French Burr; and its efficiency with its simplicity is remarkable, as are also its other desirable commendations for compactness, portableness and low price.

There are four different sizes now made of these mills, viz: 12, 15, 18 and 24 inch stone; prices from $40 to $110. The smallest may be used by hand power and turned by a crank, and either of them are readily worked by horse, steam or light water power.

Wherever water power is scarce, and grist mills for grinding corn or grain of any kind are consequently scarce, these patent mills will be almost invaluable; for with one of these mills with horse power, any person could grind all that could be ground by any other mill.

It is at once admitted by all who have seen this mill perform, that it is truly a labor saving and economical machine; as with it more work can be done with less power (by about half,) than any other mill, and it will do the work at least as well and as fast, and the price is less than for any other.

Being so well satisfied of the superior excellence of these mills, we have accepted the general agency for the sale of them, and also for the patent rights in the patent for the state of New-York. We would therefore take this occasion to invite the attention of those who feel interested in valuable improvements in these mills.



PLATT'S PREMIUM PORTABLE MILL.—(Fig. 69.)

Permit us also to say that "Warren's Improved Horse Power," for one, two or four horses, are now made and completely adapted to driving these mills. (See advertisement.) L. Bostwick & Co., 58 Water st.

New-York, Aug. 13, 1843.

BREEDING.

Messrs. Editors of the Cultivator—Taking up, a few days since, that usually inoffensive and harmless paper, the American Agriculturist, published by your amiable co-laborer, A. B. A., I saw with astonishment, (I cannot say with regret, for where an individual is so evidently overcharged with bile, the sooner he is relieved from his perilous burden the better,) a most furious onslaught upon an article on breeding, published in the Cultivator for July. I read that article at the time with no little interest, and, thanks, perhaps, to my having a thicker skull than A. B. A., without dreaming of the traps and spring guns it contained for the bloody murder, or to say the least, for the driving back to the place whence they came, our herds of beautiful Durhams, animals in which I have a special and particular interest. I read the really "fire-eater" article of A. B. A., and then turned to my file of the Cultivator, and reperused the paper which gave occasion for such a volume of hard words; and I must say that a more downright dogged determination to be hard of understanding than is here shown, has rarely fallen under my notice. I know not whether you will deem the tirade worthy of your notice; but with your leave, I wish to give you some of my New-England notions of the matters at issue. As I understand them, they are resolvable into two points: 1. The best means for the improvement of the great mass of cattle in the country; and 2. The continued improvement of the Short Horns themselves; for as to the bugbear inferences attempted to be drawn by A. B. A., there is not a sane man in the United States will believe a word of them.

As to the first point, you recommend the extensive dissemination and breeding from pure blood bulls, continually recurring back to such blood, and never using cross bred bulls where it is possible to avoid it. In this way, by constantly breeding upwards, selecting the best of our native cows to breed from, and using none but pure blood bulls, you think, and so will every reflecting man, that a vast and rapid improvement in our common herds might be made. What A. B. A. thinks on this subject, he has not seen fit to inform us. The improvement of the millions of our native stock is to him apparently not worth a thought.

As to the 2d point, it seems a mere question of fact, whether the Durhams as a breed are perfect and incapable of further improvement, and whether a breed in a high state of perfection can be improved by crossing it with one which, as a whole, is inferior. That the Short Horns, great as is their improvement and superiority, are perfect, no one, not even A. B. A., will be silly enough to affirm. They can be improved; and now must all the means of advance be derived from this breed alone, or cannot crossing with a breed inferior as a whole, but superior in some respects, be justifiable and successful? A. B. A. says improvement must come from this breed alone; you say they may be improved by the engrafting of good qualities, wherever you can find them. A. B. A. denies that any improvement can be made by crossing with a breed inferior in any respect; you admit the possibility of improvement in that way; and now I will go farther, and affirm that many, if not most of the real and permanent improvements in our domestic animals have originated in that very way. By taking the best of two distinct breeds and skillfully breeding from them, better animals have been obtained than could have been obtained from either, separately. What are the facts?

In that very number of the American Agriculturist containing the strictures of A. B. A., are some remarks illustrative of some London toy book engraving, inserted to represent the Arabian horse. From these remarks, I extract the first and last sentences: "The Arabian is acknowledged to be the foundation of all improvement in the breed of horses, either bred pure by himself, in other countries, as for example the English thorough bred, or by crosses, as is shown in the stocks of different nations. * * * It is generally supposed, now, that the Arabian horse can no longer improve our own or the English stock of horses, and we are rather inclined to that opinion." What is in effect affirmed here? 1. That the Arabian horse was originally the best breed, the very base of all improvement in horses—a fact indeed generally known. 2. That by crossing with other, and of necessity inferior breeds, new breeds have been produced so superior to the original stock that it is no longer useful for the purpose of improvement. Here he has conceded the whole argument. The Arabian, the Short Horn of horses, has been so improved by skillful crossing, which conferred points or qualities in which the original was deficient, though on the whole superior to all other breeds, that the base of the improvement has been thrown into the shade, and for breeding rendered comparatively valueless. I hope A. B. A. will not object to the authority I have here used; for however doubtful it might be in other cases, it must be good against himself. He may perhaps console himself by reflecting that he is not the first engineer that has been "hoist with his own petard."

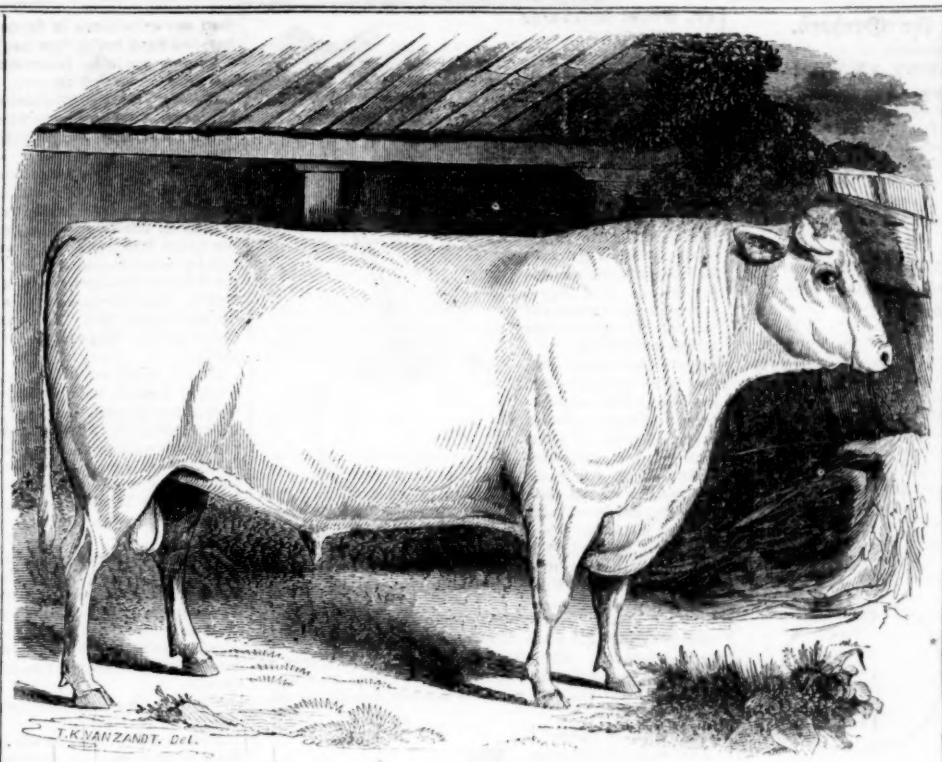
And now, as to cattle, can an instance be given in which an "improvement has been effected by a cross of a superior with an inferior breed?" There can be a most striking and unanswerable one, and this A. B. A. well knew, or he would not have penned this sentence: "We suppose we shall be told of Countess, that sold for 400 guineas, the Galloway cross, and all that sort of thing." Ah! that Galloway cross is "the d—l that will kill our Ned;" a stubborn thing not to be moved out of the way, and of course to be met with a sneer. But a sneer is not an argument, and the fact of the Galloway cross must stand, unless it shall appear that A. B. A., while in England, made some wonderful discovery respecting it, equal to that which enabled him on his return to announce his manufactory of Ayrshires. What is the truth respecting this Galloway cross? Mr. Charles Colling, who did so much to improve and to bring the Short Horns into favor, crossed his celebrated Short Horn bull Bolingbroke with a fine, red, polled Galloway cow, and the result was a most happy one. In the language of one well qualified to give an opinion in the matter, "He (Mr. Colling) resorted to this cross to obviate the deterioration produced by in-and-in-breeding, which was slowly but surely leading to a hereditary debility of constitution. He not only renovated the blood of the Short Horns by the new infusion, *without injury to them otherwise*, but with masterly skill, he improved a breed already near perfection, by engrafting upon it the peculiar excellencies of another breed, in the main far inferior."*

* For further particulars, see the Essay of H. S. Randall, Esq., vol. VII. Cultivator, page 94.

So here was a breeder, against whom A. B. A. dare not wag his tongue, guilty of what he elegantly characterizes, when suggested as possible by you, "as gross and perfect a piece of absurdity as we ever heard." It will require more than a sneer to make breeders believe that this infusion of inferior blood has ruined the superior breed, since there is scarce a herd of Short Horns in the United States that cannot be traced to this source. Yet according to "the only true principle" of A. B. A., this cross ought to have given the "alloy" *all* the bad points of the inferior breed, left the Short Horns without any horns at all, and thrown back the improved breed to the condition in which it was before. It either did this, or the true principle of A. B. A. must be classed with his other repudiated ones. Let breeders decide.

Now, Messrs. Editors, the object to be kept in view is the improvement of the stock of the whole country as fast as possible, and I believe the method pointed out by your article is the way to do this. Certain it is, that if it should be adopted, the demand for pure blood animals, for a time, would be increased a hundred fold. Every farmer who could obtain a pure blood bull, would find that by doing as Colling did, taking one cross from the best native cows he could find, and then breeding back to the pure blood, his stock would rapidly improve; while no good reason can be given why an actual advance towards greater perfection should not be made by such crosses now, as well as in the case of Colling himself.

A BREEDER.



MR. CROSBY'S DURHAM BULL OSCEOLA.—(Fig. 70.)

IMPROVEMENT OF DOMESTIC STOCK.

MESSRS. GAYLORD & TUCKER—Your article under this head, in the July no. of the Cultivator, has elicited from Mr. Allen, in the August no. of the Agriculturist, some remarks of disapprobation. I am not about to obtrude myself as an *ally* in defence of the positions you have assumed; you are undoubtedly able to fight your own battles; but some of Mr. Allen's ideas have induced me to propound to him, through this medium, a few interrogatories. Mr. A. says:—

"Now the only true principle of improvement in breeding which we ever heard of, is this: if an animal be deficient in any one point, or more, it must be crossed by another animal *equal* to it in all its *good* points, and superior to it in all its *deficient* ones; and then the chance barely is, that one-half of the produce may be *equal* to the *superior* animal thus used in the cross, and the other half not *inferior* to the *poorest*."

Now if this is "the only true principle of improvement in breeding," how would it be possible for the progeny ever to attain any greater perfection than was possessed by the progenitors? Suppose a breeder to have cows that possess, say ten good points, which he puts to a bull that has twenty,—by this principle, if I understand it, the offspring would have fifteen, and the offspring of these, bred to a bull of twenty good points, would have seventeen and a half; and how could the breeder ever obtain in the progeny as *much* perfection as one of the progenitors had in the beginning? And how have animals ever been produced that were any better than others which have preceded them, or how can we hope to produce such? How could Bakewell, on this principle alone, have ever bred any better cattle or sheep than he had in the beginning? Or is it denied that Bakewell, as well as Colling and others, ever made any actual improvement on the stock with which they commenced?

It has been asserted that there is "*one man's herd*" in England that are so much superior to all others, that *we* should look to them alone for improvement; and if there are animals in that herd which are really *superior* to their progenitors, by what "principle of improvement in breeding" did they become so?

As this is an important subject, I trust the public may receive all the information upon it which any one is able to give.

As to the milking properties of the improved Short Horns, I hope their breeders will not take your remarks on this point in *dudgeon*, (for I see no evidence that they were dictated by prejudice or ill will,) but let those breeders come up *promptly* to the work of *demonstration*, and that will be the end of argument. Let a fair and full exhibition be made of the products of the Short Horn dairies, and a comparison instituted between these and others, and that will settle the point. Until this is done, *writing* and *talking* are of little use.

The *origin* of the improved Short Horns, is a subject that may open a wider field of controversy than it may be expedient to enter upon at this time. *†.

DURHAM BULL OSCEOLA.—(Fig. 70.)

MESSRS. GAYLORD & TUCKER—I herewith send you a portrait of my Short Horn Bull Osceola, taken by that excellent artist, T. K. Van Zandt, in which he has done himself great credit.

Osceola is a pure white animal, and was calved 30th April, 1842. He was bred by HENRY WHITNEY, Esq., New-Haven, Conn., (whose stock you will remember, was so justly admired at the State Fair last fall;) got by Tempest—dam, Ringlet by Belshazzar, 1704—gr. dam, Rose by Navigator, 1260—g. g. d. by Jasper, 331—g. g. g. d. by Marshal Beresford, 415—g. g. g. g. g. d. by Cecil, 120—g. g. g. g. g. d. by a son of Favorite, 252.

Tempest, by Merryman—dam, Strawberry, (considered by judges the best animal of her kind in the country,) by Ambo, 1636—gr. dam, Fair Helen by Young Albion, 15—g. g. d. Miss Foote by Pilot, 498—g. g. g. d. Fair Maid by Agamemnon, 9—g. g. g. g. d. Madam by Marshal Beresford, 415—g. g. g. g. g. d. Tube Rose by the Lame Bull, 359—g. g. g. g. g. g. d. Moss Rose by Suwarrow, 636. Merryman by Berryman—Berryman by Henwood—Henwood by Wharfdale.

I will merely add that Ringlet the dam, was imported by Mr. Whitney, and that Tempest the sire was imported *in* Strawberry.

Yours, &c.

CLARKSON F. CROSBY.

Watervliet, N. Y., Aug. 21, 1843.

SHEEP ON THE PRAIRIES.

MESSRS. EDITORS—Now a days much is said about covering the western prairies with sheep. I never visited them; but when I hear of the laudable terms in which they are represented, as opening a great field for the flockmaster, it puts me in mind of some of the disadvantages as well as advantages in raising sheep there. I will give some hints wherein I think it might prove an unsuccessful operation. I have no doubt but that some parts may do tolerably well, while others are very unfavorable and uncertain for this delicate animal. I am inclined to believe that the western country at large, is not as favorable as Vermont for wool growing.

In fact, I do not know of any large tract of country, where sheep succeed as well on level lands as they do on more hilly and mountainous. I understand that the prairies and a great portion of the western states are level, or are not interspersed with ranges of mountains sufficient to break off the sweeping winds. Large prairies are subject to heavy wind and storms, and there is a dampness that prevails throughout that western country, called night air, which we do not experience much of near the Green mountains. Sheep are fond of hills; it is their nature; they climb them to seek a lodging ground to rest through the night, where they can breathe the free and pure air. England and Ireland have tried the experiment faithfully on the various breeds of merinoes, with very little success; which is more probably owing to the evenness of the country, subject to winds, and the general dampness of that climate. The stagnant pools and humidity of the western country, will always subject it more or less to malaria, and an abundance of annoying insects. Sheep appear very sensitive when stung by these carniverous insects, which do not abound with us in great numbers.

Another objection is, their winters are not so even as they are with us. We have but a few days variation in the length of our winters, and lay in stores to feed our sheep from the middle of November to the latter part of April. But at the west, they fluctuate; some years they experience but little or no winters. I gathered from the western papers, that the last winter was windy, long and cold, which held out five months longer than usual. A poor calculation could be made for such a winter. Suppose that millions of sheep were on these prairies last winter, most of them would inevitably have perished, which would put a damper on the most resolute. I contend that no breed of fine wooled sheep can succeed well in a level windy country No animal appears more sensitive than the sheep in a wind; they turn like a weathercock; only there is this difference, instead of heading the wind, they wheel the other way. They are careful to select, on the appearance of a storm, the best shelter within their reach. Heavy rains injure them, and nothing is worse than sleet, or a rain that freezes as it falls. Nearly half of our water falls in snow, which does not injure sheep at all. When out of the wind, they appear to enjoy themselves as much in a heavy snow storm as they do in a clear day. The northern part of New-York is a fine grazing country, but is not as well adapted for sheep as Vermont. The objection in St. Lawrence and Franklin counties, of a level and rather windy country, is, in my opinion, the cause of such mortality among them.

Much is said about prairie grass being excellent for sheep; it may answer for small flocks, but I have my doubts about stocking as close as we do in Vermont, or anything like it. Sheep will subsist in the woods, give him a large range to select his foliage, but put him into eat all within his reach, or one-tenth part, and he would sicken and die. White clover they eat with avidity; we abound in that kind of grass; our fields on this day, literally white with its blossoms.

Some say that government lands can be occupied for grazing without rent fee; no doubt but something may be done that way, but no permanent chance presents itself, and no prudent flockmaster will ever depend on government lands to keep a very large flock. Wolves that abound in these western prairies would make sad havoc among them also. And there are other obstacles which present themselves, of great account, more to disparage than any I have mentioned. It is the distempers that may prevail among them. Scale and foot rot are contagious diseases; and what, let me ask, can any breeder do, if this distemper be spread over the western wilds, among his "thousands of sheep?" Methinks that in that humid climate and level country, where great flocks range together, there would be many ragged coats and sore toes, from one year's end to another. Neither of the above diseases can be eradicated, while they occupy the same grounds, without heavy frosts. This will kill all the infection lodged on the ground; but as long as frosts hold off, so long the exposure is before them. Nothing but small flocks, and small enclosures that will keep separate flocks of one hundred or less, will give the shepherd any chance of success in curing these diseases. But when they are in long ranges, no enclosures, and large herds together, it will baffle the most skillful to cure these contagious disorders.

Every soil and climate has its peculiarities, better adapted for certain productions than any other country. The raising of cotton, for instance, in the East Indies, has been trumpeted in the ears of the cotton growers of the southern states, that they were soon to be crowded out of the markets of Europe, but it appears on a fair trial that they never can compete with us; there proves to be many objections in situation and climate that cannot be overcome, and such cotton as they do raise is inferior in quality to ours.

I am not yet alarmed about the ruin of Vermont in the great and successful competition at the west, in the growing of wool. If some of those objections that I have mentioned can be easily overcome, I think that others among them are formidable ones. Time will test the question, and we shall continue on in our usual avocations until we find others more pleasant and profitable.

Yours, S. W. JEWETT.

Westford, Vt. July 19, 1843.

The Garden and the Orchard.

SIX REASONS FOR PLANTING AN ORCHARD.

1. It will make home pleasant. 2. It will remove from your children one of the strongest temptations to steal. 3. It will make your family love their home. 4. It will, by the comfort produced, create a feeling of gratitude to the Giver of all good. 5. It will prove a valuable inheritance to your children. 6. It shows a willingness to avail yourself of the means of happiness a kind Providence has placed within your reach.

FIGURES AND DESCRIPTIONS

Of Five Varieties of Cherry, deserving a place in every Garden, by A. J. DOWNING.

I. MAYDUKE.

Among all the new varieties, nothing as an early cherry, has been found to supplant the Mayduke. Before it is quite fit for table use, it is admirably adapted for cooking; and when fully ripe, it is the richest of the sub-acid cherries. A peculiar habit of this tree, that of producing very frequently some branches which ripen later than the others, considerably protracts the season in which its fruit is in use.

The Mayduke Cherry.

Form nearly round, slightly flattened at both ends. Color when fully ripe, a rich dark red. Stalk of medium length, inserted in a moderate hollow; on large trees the fruit grows in clusters. Flesh tender, melting, and very juicy. Flavor, pleasant acid, becoming richer until the fruit is over ripe. The tree is an abundant bearer, and is easily known by its firm dark colored leaves and upright habit while young. About New-York, the fruit reddens about the last of May, and ripens during the first half of June.

II. BELLE DE CHOISY.

(Ambreé de Choisy.)

This is a very fine variety, which originated at Choisy near Paris. The habit of the tree, the color of the foliage, and the size and form of the fruit, resemble those of the Mayduke. In the color of the fruit, which may be said to be that of *cornelian*, and in its exceedingly sweet and delicate flavor, it is however very distinct, and it is certainly one of the most delicious dessert cherries. It is not generally known in this country, but is deserving of extensive cultivation, as it bears early, regularly and well.

The Belle de Choisy Cherry

Form of the fruit nearly round. Color, in the shade, pale amber; in the sun mingled with yellowish red, finely mottled. Those fully exposed, become bright cornelian red. Skin very thin and translucent, showing a net-like texture of flesh beneath. Flesh very tender and melting. Flavor sweet, juicy and sprightly. Stalk rather short, swollen in size at the upper end. It ripens directly after the Mayduke.

III. BLACK TARTARIAN.

(Circassian.)
(Fraser's Black.)
(Ronald's Black Heart.)

This admirable fruit has already become a general favorite in all our gardens; and for size, flavor and productiveness, it has no superior among black cherries. It is a Russian and West Asian variety, introduced into England about 1796. It is remarkable for its rapid vigorous growth, and the erect habit of its head. The fruit ripens about a week or ten days after the Mayduke.

Fruit of the largest size: form heart shaped, irregular or uneven on the surface. Color, bright purplish black. Flesh thick, (the stone being proportionately small,) half-tender and juicy. Flavor very rich.

The Black Tartarian Cherry.

IV. WHITE BIGARRIEU

(Graffion.)
(Bigarrieu Gros.)
(Yellow Spanish of many Am. Gardens.)

This well known variety is one of the very best of the light colored cherries, being large, very handsome, and an abundant bearer, even while the trees are young. The tree is one of the thriftiest growth, forming a wide spreading head. The leaves are large and broad, and the lateral shoots are almost horizontal.

The White Bigarrieu Cherry.

Fruit of the largest size, and of very fair and and beautiful appearance. Form, obtuse heart shaped, a little swollen on one side. Color, clear white or pale yellow on the shaded side, bordered with minute carmine dots, deepening into bright red on the sunny side. Stalk of good size, inserted in a wide hollow. Flesh very firm, solid and juicy. Flavor moderately rich and sweet. Ripe the last of June.

This is a very favorite dessert and market fruit, and is very generally known in the American nurseries as the Yellow Spanish. The true Yellow Spanish, however, is an oval or heart shaped yellow cherry, called also Lady Southampton's Yellow, which is scarcely known in this country.

V. DOWNER'S LATE.

This valuable late cherry was raised by Samuel Downer of Dorchester, near Boston. It is a very regular and excellent bearer, ripens about a week after the cherry season, and hangs for a considerable time on the tree. It belongs to the class of tender fleshed, melting cherries, and deserves extensive dissemination.

Downer's Late Cherry.

Form roundish, inclining to oval; the fruit medium size, very smooth. Color, bright red, mottled with a little amber in the shade. Flesh tender, melting and juicy. Flavor very sweet and excellent. Stem inserted with a very slight depression. Fruit borne in clusters. Ripe about the 4th of July.

Highland Horticultural Nurseries, Newburgh, Aug 15, 1843.

SELECT LIST OF APPLES.

We have received a descriptive list of about 40 varieties of apples cultivated by A. Hampton, near Richmond, Wayne co. Indiana, many of which we believe will be new to most of our readers, and would prove valuable acquisitions. We have taken the liberty to omit some of the descriptions of those varieties which are well known, or which have been described in Coxe, Kenrick, and other works. We have, however, retained the names in the order in which they occur, as they appear to be placed according to the times of ripening, and may prove valuable for a comparison of climates. An apology is due our correspondent for the long and unexpected delay in the publication of his article.

Yellow June—Juneting of Coxe.—Size small, form flat, color pale yellow; a pleasant eating fruit, not highly flavored; a good bearer; ripens in the 6th and 7th months. This is considered the earliest apple of our country.

Yellow Harvest—sometimes called *Prince's Harvest.*—Commences ripening middle of 7th month.

Kirkbridge White.—Size medium, resembling the Yellow Bellflower in shape; color a pale yellow; flesh white, tender, and breaking; not very rich, but sprightly and juicy; a good bearer; commences ripening about the middle of the 7th month, and continues for several weeks; the trees grow upright and strong. This variety I have not seen described by any of the writers on fruit.

Sweet June.—Rather below medium size; form round, somewhat flattened at the ends; color a pale yellow; a sweet apple, much admired by some; a good bearer; commences ripening late in the 7th month.

Early Red Juneting.—Last of 7th month.

Yellow Bough. (*Sweet Bough.*)—Ripens 7th and 8th months.

Carolina June or Sapsonvine. (*Sapson.*)—Ripens from 7th to 9th month.

Early Red.—Over medium size; form round, somewhat flattened at the ends; color red, with a small portion of dull yellow stripes; more admired for its size and beauty, than any excellence in flavor; a saleable apple in market; the flesh being firm and rather dry, it keeps well as a summer apple for transportation. Ripens early part of 8th month; a good bearer.

Summer Queen.—Commences ripening early part of 8th month, and continues successively for three or four weeks; not very productive when young; when large they become very fruitful.

Red Stripe.—Size large, long shaped, pointed towards the blossom end; color red and yellow striped, fair and beautiful; the flesh brittle and juicy, well flavored, excellent for cooking. It is generally considered preferable to the Summer Queen, being a better bearer and ripening about the same time, which is the early part of the 8th month,—good for use through that and the next month. I have never seen this variety described by any of the writers on fruit. I obtained it from Silas Wharton's nursery, near Waynesville, Ohio, upwards of 25 years since.

Daniel Apple.—Size below medium; form round; color pale yellow, with faint red stripes and spots, generally a small portion of red; it possesses great richness, with a sprightly, pleasant acid; soft flesh; a good bearer; it commences ripening early part of 8th month, and ripens in succession for several weeks, and keeps for use till late in the fall. I consider it among the best apples for fattening hogs and cattle. I obtained it also of S. Wharton; it originated near Philadelphia some 40 years since.

Summer Pearmain.—Ripens early part of 8th month.

Trenton Early or English Codlin.—A fine fruit for pies and stewing; the size large, the form somewhat oblong; the skin a bright pale yellow, with frequently a faint blush towards the sun; the flesh white, tender, and well tasted; commences ripening middle of the 8th month, and continues in season till late in the tenth month; a good bearer.

Maiden's Blush.—Commences ripening late in the 8th month.

Wine Apple of East Jersey—Red Calville of Kenrick.—Fruit of medium size, frequently large on young trees; form somewhat flat; of a beautiful red color, bright red next the sun; flesh somewhat yellow, and of a vinous and sweet taste, very rich, without acid; it ripens in the 9th month, and keeps till winter. An abundant bearer every other year, and at intervals frequently a middling crop.

Rambo.—Ripens in autumn.

Fall (not Holland,) Pippin.—Ripens in 10th month.

Monstrous Pippin, or New-York Gloria Mundi.—Good for cooking and drying. Keeps till midwinter.

Newtown Spitzenburg.—A large round and fair apple, somewhat flattened at the ends; the skin a deep red, full of small yellow dots near the crown; the flesh is yellow, rich, and highly flavored; it ripens in the 10th month, and falls from the tree; but if properly treated will last for several months; a good bearer.

Watson's Vandevere.—A large fair apple; red and yellow striped; form round, full at the blossom end; coarse grained, not very sprightly, good for cooking and drying; winter apple; a good bearer.

Golden Russet, Bullock Pippin, or Sheep Nose.—Below medium size; skin inclined to a russet; flesh yellow, tender, rich, juicy and sprightly. I know of no apple more generally admired for its richness and excellent flavor than this; commanding a high price and ready sale in market. A great and constant bearer; keeps well till spring.

Yellow Bellflower.—Keeps through winter.

Vandevere Pippin.—The size, color, and form, resemble Watson's Vandevere, except that it is more red and handsome, and indented at the blossom end; tolerably good for the dessert and for cooking, excellent for drying; keeps through the winter; a good bearer.

Rhode Island Greening.—Keeps till mid-winter.

White Pippin.—A large handsome apple; form somewhat flat; color a clear pale yellow, approaching to white; flesh white, brittle, juicy, and well flavored; ripens in succession through winter; a good bearer.

Romanstem.—Middle size, form round, often a fleshy protuberance near the stem; the skin is rough, a pale yellow, with black clouds and spots; it is much admired for its tender, mild, juicy, soft and agreeable properties; the tree is handsome and very fruitful; in every respect worthy of extensive cultivation; keeps till spring, retaining its excellent flavor.

Red Winter Pennock.—Keeps through winter; subject to the bitter rot.

Red Baldwin.—Ripens in 11th month, and keeps till 3d month.

Aunt's Apple.—Keeps well through winter—very fruitful.

Smith Apple.—Over medium size; on young trees they frequently grow very large; form round, even at the blossom end; the skin is smooth, a lively red, some with dull streaks of yellow, where exposed to the sun a bright red on every side: a pleasant table fruit, rich and juicy; of a yellow color; keeps well through winter; the tree grows upright and strong, and bears abundantly every other year.

Michael Henry Pippin.—Keeps well through the winter.

Black Apple.—Ripens in 11th month, and keeps till late in spring. Bears very young and abundantly.

Red or Sweet Pippin.—Keeps well till late in the spring.

White Pearmain.—Over medium size; of an oblong shape, pointed towards the crown: color a dull yellow with dark clouds; the flesh firm, brittle, rich, juicy, sac-

charine, and highly flavored, nearly without acid; very generally admired as a first rate fruit; keeps well through the winter; trees thrifty, with a spreading top; sometimes they are greatly loaded with fruit; the apples grow in clusters.

Winesap.—From 12th month to 6th month.

Neverfail or Genitting.—Middle size; form round, somewhat long, lessening towards the crown; color red and yellow striped; the flesh is tender, juicy and well flavored; keeps as well as the Newtown pippin or Winesap; nearly two weeks later than common apple trees in leaves and blossoms in spring.

Green Newtown Pippin.—Some object to this variety on account of it slow growth, and a long time coming into bearing; but that fault can be remedied by grafting or inoculating on good thrifty bodies. Upwards of 30 trees of this sort, all grafted on seedling bodies, more than 20 years since, came into good bearing nearly as soon as most other varieties planted at the same time.

From the best information that I have obtained, I have reason to believe that the Newtown pippin will not often come to good maturity much north of the 41st degree of latitude, except in some warm situations. They require longer and warmer seasons to get their growth to perfection than any other choice varieties I am acquainted with, except the Limbertwig, said to be a capital variety in the south, and which does not come to good maturity as far north as 40° lat.

American Pippin.—[This variety we consider wholly unworthy of cultivation,—as it continues insufferably hard until it has lost all its flavor in ripening, and is much inferior as a keeper to some other far better varieties.—EDS.]

Wintergreen.—This apple is of a moderate size; the form nearly round, somewhat tapering towards the blossom end, which is full and even; color dull green at the time of gathering winter fruit; they do not come to perfection for use till the 3d month, at which time they become a pale yellow; the flesh is of a dead sweet, very rich, of a yellow color; with proper care they will keep till harvest. Bears abundantly and constantly.

The above described varieties of apples, I have with great care and attention, selected from several hundred sorts of grafted fruit, principally from the nurseries and fruit gardens in the eastern states; some choice fruit from the south, which are calculated for family use, ripening in succession most of the year.

The time of ripening is calculated for the 40th degree of latitude; but will vary with the age of the trees, different situations, or changes of the seasons.

ANDREW HAMPTON.

Six miles north of Richmond, Indiana, 1st mo. 1843.

ASHES FOR PEACH TREES.

WE advise our readers who have peach trees, to place ashes around them at the surface of the ground, not leached, but new ashes. And they will do no harm if put around quince, pear or apple trees, since all of these are more or less subject to the attacks of worms at the surface of the earth, and ashes are found to be one of the best preventives of the borer, as well as one of the best auxiliaries to the growth of the tree. For the quince bush, we have found nothing equal to blacksmith cinders and coal ashes; and those who have these materials, may turn them to good account by this use of them. The ashes should be applied two or three times in the course of the summer, commencing in June.

SMOKING ORCHARDS.

IN the last number of the Journal of the Royal Ag. Society, is an account of a successful mode of preserving orchards from the caterpillar, &c. by smoking them. The smoking is done by placing a large iron kettle on four low wheels, and putting in it dry wood, weeds, rubbish, and some brimstone, and kindling it with a bellows, which drives a strong and continual stream of smoke through a moveable tube, to every tree, and every part of a tree in succession. The smoking being commenced on the windward side of the orchard, and followed row by row, the moth and apple weevil, and black apple fly, will be driven out and the crop saved.

SAVE YOUR SOAP SUDS.

THERE is scarcely a plant that is not benefitted by watering with soap suds. It furnishes nutritive matter as well as moisture; keeps off insects, and promotes a rapid growth. The Gard. Chronicle states that while there has been a great failure in the cabbage and cauliflower gardens generally, those watered with soap suds have produced plants of the finest quality, and entirely escaped the injuries inflicted by insects upon others.

CURIOUS HORTICULTURAL FACT—THIRD CROP APPLES.—The following is an extract from a letter received at the office of the *Phil. Forum*, from Portsmouth, Ohio. The apples sent, were exhibited deservedly as a curiosity.

"My June apples were ripe on the first of June, and in blossom for a second crop which ripened the last of July, with blossoms for a third crop which ripened the last week in September—at which time the tree was in blossom for the fourth time—the fruit was blighted by the frost when the apples were of the size of a robin's egg. A few bunches of blossoms were observed on the tree in the beginning of November. An opportunity offering, I send you three apples—the bottle being small, I had necessarily to send you small apples—but they will serve as specimens of a great *narural curiosity*. My June apple tree, which blossomed five times last year, and yielded *ripe fruit three times*, is again covered with blossoms thicker than ever this spring."

LICE ON CABBAGE.

MAJ. S. has lately succeeded in destroying the lice on cabbage and other plants, by sprinkling them with a strong decoction of tobacco, walnut leaves, and the leaves of the pride of China.

Pendleton, S. C., Aug. 5, 1843. J. B. S.

THE PLUM CURCULIO KILLED BY SALT.—Capt. Lovett of Beverly, informs Mr. Hovey of the Magazine of Horticulture, that by applying about half a peck of salt around each tree, spreading it as far as the branches extend, he, as well as some others who have tried it, have saved their fruit from this insect. The time to apply it, is about the first of June.

MILDEW ON GOOSEBERRIES.—The great difficulty with which gooseberry growers in this country are obliged to contend, is the mildew, which in most cases renders the imported varieties worthless. The Farmer's Gazette states that the mildew is prevented by sprinkling fine salt around the bushes, or where it can be had, by placing sea weed around them. Watering with soap suds, before the fruit forms, and using compost for manures, is also good.

STRAWBERRIES.—This month is the best time for planting strawberry beds. Abundant directions for their culture, will be found in our previous vols.

Domestic Economy.

INTERESTING EXPERIMENTS ON THE MAKING OF BUTTER.

In the 1st no. of the new series of the Quarterly Journal of Agriculture, we find a valuable paper by Prof. Traill, on the making of butter, the principal results of which we have condensed for this no. of the Cultivator. In making the experiments the milk of several cows was mixed, strained, a certain number of pints taken, and the cream churned in glass vessels. The whole series was conducted with the greatest nicety and accuracy. The objects proposed, were to ascertain the comparative advantages of churning,

1. Sweet cream alone.
2. Sweet milk and cream together.
3. Sour cream, or that slightly acid.
4. Sour milk and cream together.
5. Scalded or *clouted* cream.

The experiments also embraced the rise of the temperature of the cream in churning, which was found to be from 6 to 8 degrees; the effect of external temperature; and that of adding water to the churn, as practiced by many. The difference in the yield of butter between the first milk drawn and the last, or the strippings, was also ascertained.

Experiment 1. Value of the first and last portions of milk.

No. 1. First pint milked. Quantity of butter, 31 grs.
No. 2. Pint of the whole milking, ... 252
No. 3. Last pint of the milking, ... 416

In one instance the difference was still greater, the first pint yielding only 5 grains, and the last 551 of butter. An experiment was made to ascertain the quantity of curd yielded by the first and last portions, but the difference was scarcely perceptible, showing that the quantity of caseine throughout the milk is nearly the same.

Experiment 2. This was made on sweet cream, sweet milk and cream, sour cream, sour milk and cream, and scalded cream. Three quarts of milk of the same quality were used in each case.

No. 1. Sweet cream alone. Gave of butter, 1386 grs.
No. 2. Sweet milk and its cream together.
Churned 3 hours, but no butter.
No. 3. Sour cream alone, ... 1756
No. 4. Sour milk and its cream together, .. 1968
No. 5. Scalded cream alone, ... 1998

The butter of No. 1, was of a good color and well flavored; that of No. 3, in both color and taste was good; No. 4 was paler, but flavor good; No. 5, was of a rich yellow color and of good taste.

Experiment 3, was a repetition of the foregoing. Not quite as much butter was made, as it was a month later in the season; and as before, no butter was made from the sweet cream and milk. From these and other experiments, it was proved that scalded cream, or that taken from scalded milk, gave the most butter; the next sour milk and cream; the next from the slightly sour cream; and the smallest quantity from the sweet cream. In none of the experiments could butter be made from the sweet cream and milk together.

Experiments 4 and 5, were made to determine the time in which, with the same exposure, rancidity commenced. It was found that the butter from the scalded cream kept worst; then that of the sour milk and cream; then the sour cream; and the best was that from the sweet cream.

Experiment 6, was made to determine whether the liability to turn rancid was not in proportion to the amount of caseine or curd in each. Experiments showed this to be the case, the kinds containing the most curd being those which exhibited rancidity the earliest. This proved the necessity of perfectly freeing butter from all milk after churning.

Experiment 7, was instituted to ascertain the effect of overchurning, or continuing the process after the full separation of the butter. It was found that the quantity of butter was considerably increased, when the churning was continued half an hour after the butter had formed; but the product was pale, soft, and of an inferior quality, as compared with that churned the necessary time only.

Experiment 8, was instituted to determine whether the addition of either cold or hot water to the cream in churning, had any influence on the quality or quantity of the butter. The experiment showed that the addition of warm water shortened the period of churning a trifle, gave a little more butter, but injured its quality much. Cold water appeared to produce little effect any way, unless the external temperature was very great, when it rendered the butter more solid and improved the quality.

In each case a number of experiments were made, and the results are therefore more satisfactory than a single experiment could have been. Some of the principal of these results are as follows:

1. The addition of some cold water is useful, when the cream is thick and the weather hot.
2. That cream alone is more easily churned, than a mixture of cream and milk.
3. That butter from sweet cream has the best flavor, and keeps the longest.
4. That scalding the cream gives most butter, but becomes rancid soonest.
5. That churning the milk and cream together when slightly acid, is on the whole the best process.
6. That the keeping of butter depends on its perfect freedom from caseine or buttermilk.

A BUTTER TABLE.

MESSRS. GAYLORD & TUCKER—I will attempt to say a word on the subject of butter making. There has been quite enough said about milking, setting the milk, churning, &c.; my object will be to attend to some small essentials after the butter is churned. One positive direction is, never touch it with the naked hand, for it assuredly gives it a greasy, oily taste. Some persons may say that I throw myself into the hands of the critic, by saying that butter is greasy, but they are welcome to make what they can out of it. I will give you a specification of a simple machine to separate the butter from all the liquid matter: and if any person can improve on it, or describe a better one, the information will be gratefully received. The one I have in use, is a maple plank or board, three feet long, two feet at one end, six inches at the other, a true taper on each edge, with strips six inches wide, nailed on the two sides; there are cleats at each end on the under side, in which is inserted at the narrow end, a leg 17 inches long, and two legs at the wide end, 22 inches long. On the surface of the board, near the narrow end and in the center, is an iron staple; a stick of maple 3 inches square, 3 feet 10 inches long, a little tapering, a gudgeon in the end, with a flat head that will turn into the staple; the other end may be turned or shaved to form a handle. Butter on this board, worked and pressed with this stick, has the benefit of the liquid substance constantly draining from it as the working progresses, and the labor can be performed in a quarter of the time, much better, and much less laborious exertion, than any other plan that has come to my knowledge.

A SARATOGA COUNTY FARMER.

Aug. 8, 1843.

CURE FOR SALIVATION, &c.

MESSRS. GAYLORD & TUCKER—I send you a recipe to cure the scurvy or salivation. I have never known it to fail. If you think proper to put it in your paper you can do so. Scrape off the outside of persimmon bark—take as much of the bark as can be grasped between the thumb and fore finger—the same quantity of the bark of sumach root, the same of red shank or red root, the same of common pine root, (small pieces,) the same of parsley roots and tops; put all into two quarts of water, boil slow until it is reduced to one quart; then add half pint vinegar, half pint of honey, one ounce alum, one do. of saltpetre; after it settles, pour off into bottles; use often through the day in rinsing the mouth, gargling, &c.; use it immediately after meals. There is no danger if it was swallowed—no necessity for swallowing.

THOS. J. HOLMES.

Concord, Baker co., Geo., 1843.

FRENCH SAVORY SAUCE.

To 4 lbs. of veal fat from the kikneys, cut small, add 1¼ lb. ham, 1¼ lb. rasped bacon, 5 or 6 chopped carrots, 8 small onions, a large bunch of parsley, 3 cloves, 2 bay leaves, some thyme, basil, mace, 3 lemons, (sliced without peel or seed,) and 1 lb. of butter; boil them in any weak broth; skim; simmer for five or six hours; strain and keep the liquor for use.

FRENCH MODE OF COOKING POTATOES.

WHEN the potatoes are boiled, cut them in slices and put them in a sauce pan; pour some onion broth over them; then add a piece of butter and keep the potatoes hot without boiling. Slice eight onions, and set them on the fire; when they are tender, take a large spoonful of flour which is to be well mixed with them; add salt,

coarse pepper, a small table spoonful of broth or water, and a dash of vinegar. Let the onions gently simmer for a quarter of an hour, place them on the potatoes, and keep them hot till served.

BLACKBERRY SYRUP.

THE following directions for preparing this article, pleasant for the taste, and the best remedy for the summer complaint among children, we find in the Maine Cultivator. To 2 quarts of the juice of blackberries, add one lb. of loaf sugar, half an ounce of nutmeg, half an ounce of cinnamon, pulverized. To this add half an ounce of cloves, and quarter of an ounce of allspice, pulverized. Boil all together for a short time, and when cold, add a pint of proof brandy. Bottle carefully, and keep in a cool place for use.

TOMATO KETCHUP.

BAKE your tomatoes, ripe and peeled, in a brown earthen pan, in a cool oven; then press out the juice and pulp through a sieve. Next to each quart of juice and pulp add ½ lb. of salt, 2 oz. of shallots (or onions,) 1 oz. of ground black pepper, quarter of an ounce mace; the same weight of allspice, ginger and nutmeg. Pound the spices together and boil them with the tomato pulp half an hour; then pass the mixture through a sieve, and when cold bottle it. This will keep good for years.

TOMATO SAUCE.

TAKE ripe tomatoes, cut them in two, press out the pulp and separate the seeds; then put them into a skillet with some savory sauce and a little salt. When of the thickness of pea soup, rub it through a coarse cloth, boil it to the consistence of marmalade, put it into jars, and in a day after pour over it lard or butter, and tie down with oiled paper.

FACTS AND OPINIONS.

Abstracted from Books and Journals for the Cultivator.

AVERAGE CROPS IN SOUTH CAROLINA.—The following statement is given in a report of the Wateree Ag. Society, (S. C.) published in "The Planter" of August 9. Surely no better evidence need be required of the necessity for an improved system of agriculture:—"High land improved, will average from four to five hundred pounds of cotton in the seed; in corn, about ten bushels; from seventy-five to one hundred bushels sweet potatoes; seven to eight bushels of oats; five or six bushels of rye; peas in corn, two bushels. The swamp lands, unimproved, will average, when not destroyed by water, 700 lbs. seed cotton to the acre, and about twenty bushels of corn, (if changed from cotton to corn;) oats, fifteen or twenty bushels; rye, ten to fifteen bushels; peas in corn, two to four bushels; but are not good for sweet potatoes."

CORN IN SOUTH CAROLINA.—A correspondent of the Charleston Mercury says that Mr. B. R. Smith, near that city, last year succeeded in raising 67 bushels and 18 quarts of Indian corn to the acre, and that it is believed by good judges that his crop this year will not fall far short of 100 bushels per acre. "The land on which the present crop is planted was originally poor and much exhausted by injudicious cultivation. It was thoroughly plowed, and manured with stable manure in proportion of 60 single cart loads to the acre. The corn was soaked in saltpetre, rolled in gypsum, and planted on a flat surface in double rows, the stems 18 inches apart, in rows of four feet. Very little use was subsequently made of the hoe; the cultivator was run through it a few times. The luxuriance of the growth kept down the grass, and rendered all farther culture unnecessary."

CONSUMPTION OF FOOD IN LONDON.—The editor of the Albany Evening Journal, now abroad, in a recent letter from London, says:—"I was wondering this morning how much 'provant' was required to furnish this army of people with rations. An inquiry shows that 12,000,000 bushels of wheat are required annually to supply London with bread; that 120,000 tons of fish are caught here annually; the annual consumption of butter is estimated at 40,000,000 lbs., and the price varies from 25 to 37½ cents. Of meats I can get no estimate, but there is brought annually to Smithfield Market alone, 180,000 oxen, 450,000 hogs or pigs, 1,350,000 sheep or lambs, and 25,000 calves. Of milk, it is said that 11,000 cows supply the metropolis with 8,030,000 gallons annually, at an average price of 1s. 10d. per 8 quarts, (about 5 cents per quart.)

IMPROVEMENT OF SANDY LANDS.—The Hon. Wm. Clark of Northampton, Mass., as we learn from the *N. E. Farmer*, has "several hundred acres of light lands, which he has undertaken to improve, mostly by the turning in of clover. His first growth is usually small, but the second, which comes from the seed of the first, is usually very much better. Some of the lands after a growth of clover has been grown upon them, and plowed in, are put to corn, but the larger portion are sowed to winter rye. Mr. C. stated that he sowed last summer and autumn, from 150 to 175 bushels of rye. Some of his fields of this grain looked very well, but others will not yield very large crops. Mr. C. does not expect large crops at present. His object is to make these lands pay for the annual expenditure upon them, and at the same time keep them in a process of regular improvement. If a few years shall show that he can do this—and we think he will do it—then his method will be highly valuable to hundreds and thousands of farmers who are doomed to work in sand and gravel."

GOOD COWS.—Mr. E. D. Allen, of Le Ray, Jefferson co., N. Y., made, in the months of May and June, from his dairy of ten cows, eight tubs of butter, weighing eight hundred and seventy-two pounds, (nett weight,) being a fraction short of forty-four pounds per month per cow on an average. The Jefferson dairies are not likely to lose their high credit this year, if Mr. Allen's may be taken as a sample.

SMUT.—Mr. Greene, in the Southern Planter, states that intending to sow a small quantity of wheat as an experiment, he soaked it in brine for twenty-four hours, but being called away, he found on his return that his man had commenced sowing without liming, as intended. He was stopped, and the remainder rolled in dry, air slacked lime. Of the wheat from seed not limed, nearly a fourth of the heads were *smut*; of the remainder, not a head.

BOMMER'S MANURE.—Mr. Greene, before seeing Mr. Bommer's statement in the Cultivator, had purchased, and applied that method to the preparation of tan bark, and he has no doubt the compost will be excellent. He thinks the method excellent for converting weeds, straw, cornstalks, &c. into manure, but advises the operator to commence where he can have convenient access to water, as considerable quantities will be required in the preparation.

WORTHY OF NOTICE.—"In woman we find that any thing which tends to annoy her, to irritate feelings, or produce an exhibition of anger, occasions at the same time a partial destruction of the valuable constituents of her milk. We have it in our power to observe these effects in woman, with more accuracy than in the lower animals, though doubtless similar feelings will produce in both the same change in the composition of the milk. The milk of a woman who has experienced a violent and sudden fit of anger, is found to be quite sour; hence it is requisite that wet nurses should be kept in a state of perfect tranquility, both in mind and in body.

"For a similar reason it is necessary in dairy farming to use every means to insure the tranquility of our milch cows. Harsh treatment exerts a very injurious action on the nature of the milk, both from mental and physical causes. Dairymen are well aware of the evil results which follow, if cows be harrassed either by dogs or harsh keepers."—[*Playfair's application of Physiology.*

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AGRICULTURAL INSTITUTE, BRIDGEPORT, CT.

THE REV. B. G. NOBLE intends to commence an Agricultural Institute on his farm in the town of Bridgeport, on the first Wednesday of October. The system of education will be adapted to the wants of youth designed for the pursuits of agriculture. It will include the natural sciences, in their connection with agriculture, and all the higher branches of an English education.

The winter term will commence on the first Wednesday of October, and the summer term on the first Wednesday of May, and will each continue 22 weeks.

Expenses for board, tuition, washing and fuel, for a term, $80. Payments quarterly, or for the term, in advance. If not provided by the pupil, there will be a small charge for bed and bedding.

Only ten pupils can at present be accommodated. Application to be made to Rev. B. G. Noble, Bridgeport, Conn.

Bridgeport, August 15, 1843.—2t.

TO INVENTORS AND OTHERS.

DRAWINGS, Specifications, and other papers requisite for procuring Patents, prepared by the subscribers upon moderate terms, and transmitted to Washington, free of expense.

Mechanical, Architectural, and other drawings, calculations for machinery, maps, &c., also made upon the most reasonable terms, by A. & W. S. ELLISON, Civil Engineers and Draftsmen, Nos. 13 & 16 Douw's Buildings.

SURVEYING.—A. & W. S. E. still continue to make surveys of Farms, Water Powers, &c.

Albany, Sept. 1, 1843.—tf.

PLATT'S PATENT PREMIUM PORTABLE MILL

For Grinding all kinds of Grain, Spices, Drugs, Paints, &c.

THE subscribers have been recently appointed general agents for the sale of the above most valuable mills in the state of New-York; also for the sale of patent rights in the patent. *Price* of 12 inch machine, $40; of 15 inch, $60; of 18 inch, $100; of 24 inch, $110, payment to be made on delivery.

All orders—post paid, if by letter—will be punctually attended to. Samples of the mill may be seen at their office.

8t. L. BOSTWICK & CO., 58 Water-st., New-York.

A GREAT SALE OF LONG WOOLED SHEEP.

THE subscriber having become the owner of the celebrated flock of New Leicester and Cotswold breeds of Sheep, of Thomas Dunn, containing near two hundred head; all thorough bred, having been crossed for the last twenty years by annual importations from the most celebrated breeders in England, at a very great expense, which has given them a great size and a strong hardy constitution; their fleeces averaging about 7 lbs. per head. For several years past, fat wethers have been sold to the butchers in this city, weighing from 40 to 50 lbs. the quarter, from this flock. The subscriber being in ill health, and desirous of closing up his business, will dispose of them at public auction, on the 4th day of October next, at the farm recently owned by Thomas Dunn, 14 miles west of Albany. An opportunity like the present, may never occur again to those wishing to make a fine selection and to improve their flocks.

Albany, Sept. 1, 1843.—2t. GEORGE MONTEATH.

MT. HOPE BOTANIC GARDEN AND NURSERY. ROCHESTER, N. Y.

THE proprietors of this establishment offer for sale an unusually fine assortment of Fruit Trees, comprising the choicest varieties of Apple, Pear, Peach, Plum, Cherry, &c. now cultivated.

The trees are of good size, exceedingly thrifty, and free from diseases of any kind. The stock of Cherry and Peach particularly is very large and of beautiful growth.

They have also on hand an excellent stock of *Ornamental Trees and Shrubs, Green House Plants, Bulbous Roots, Double Dahlias and Roses.*

The latter embraces the most desirable new varieties of the *monthly* Bengal, Tea scented, Bourbon and Noisette, and of the *hardy* Province, Damask, Moss, Hybrid, China, &c., and of the magnificent climbing varieties of Ayrshire, Boussault and Rubifolia, including the splendid new *Double Michigan.*

The proprietors pledge themselves to execute all orders they may be favored with in the most satisfactory manner. The utmost care is taken to have every parcel that leaves the nursery properly packed and shipped.

Catalogues will be forwarded, gratis, to all applicants, and may also be had at the office of the Cultivator in Albany, and the New Genesee Farmer in Rochester, and at the several agencies of the Rochester Seed Store in the country.

It is particularly requested that all orders be forwarded as early as possible, (say before 10th October,) so that they may be executed as soon as the season will admit.

A remittance or satisfactory reference is invariably required. Address, post paid, ELLWANGER & BARRY,

Sept. 1, 1843.—2t. Rochester, N. Y.

SALE OF DURHAM SHORT HORN CATTLE AND SOUTH DOWN SHEEP.

THE subscriber, desirous of reducing his stock, will offer for sale, at auction, on Wednesday, the 13th of September next, at 10 o'clock, A. M. at Three Hills Farm, 3½ miles west of the city of Albany, on the Cherry Valley road, 25 head of cattle, consisting of bulls, cows, heifers and calves, and between 70 and 80 head of South Down sheep, consisting of bucks, breeding ewes, yearlings and lambs, bred from the stock imported by Mr. Hawes in 1832, and from bucks imported since.

Messrs. Corning & Sotham, will also offer at the same time and place, some of their celebrated HEREFORD BULLS, of different ages. C. N. BEMENT.

Three Hills Farm, Albany, June 1, 1843. 4t.

POUDRETTE.

CHEAPER STILL—Seven barrels for $10, and eleven barrels for $15, for this fall's use on Wheat and Rye—in order to show its great value for those crops. Orders will be executed immediately on receipt of letter, or personal application with the money, to D. K. MINOR,

Aug. 1, 1843.—3t. 23 Chambers st., New-York.

VALUABLE FARM FOR SALE.

THE valuable and highly cultivated farm now occupied by Mr. Earl Stimson, in the town of Galway, Saratoga county, containing about 325 acres, will be sold at public auction, by virtue of a decree of the Court of Chancery, at the Court House in the village of Ballston Spa, on Saturday, the ninth day of September next, at twelve o'clock at noon. This farm is so well known to agriculturists, that it is unnecessary to describe it more particularly. The property is so situated that it will make three good farms, and will be sold together, or in parcels, to suit purchasers. The sale will be absolute to the highest bidder, on the ninth of September, and a large portion of the purchase money may remain on mortgage if desired. For further particulars apply to Samuel W. Jones, Esq. Schenectady, or to the subscriber, No. 75 Nassau street, New-York.

July 19, 1843.—2t. J. OAKLEY.

JUST PUBLISHED—PRICE 31¼ CENTS.

LECTURES on the Applications of Chemistry and Geology to Agriculture, by Jas. F. W. Johnston, M. A., F. R. S. &c. Part III. On Manures—their nature, composition, and mode of action, and their best application to improve the soil. For sale by D. K. MINOR, 23 Chambers st., corner Centre st., New-York, also at the office of "*The Cultivator*," Albany, and by Booksellers and News Agents generally. Price 31¼ cents.

Parts I. and II., reprinted from the author's second edition, will be ready early in August. Part IV. will be published within one week after its receipt from London.

NOTICES OF THE WORK.

"The most complete account of Agricultural Chemistry we possess."—*Royal Ag. Journal.*

"Nothing hitherto published has at all equaled it, both as regards true science and sound common sense."—*Quarterly Journal of Agriculture.*

"By their easy style are likely to prove interesting to the least instructed.****When finished, this book will form the only complete treatise on the whole subject to be found in any language."—*Blackwood's Magazine.* *Aug.* 1.—3t.

TO FARMERS.

THE subscriber is prepared to supply Compound Guano, prepared from an analysis of that valuable manure. Also, dry Sulphate of Soda, Sulphate of Ammonia, &c. He has 5,000 to 10,000 bushels of Hard Wood Charcoal, which he will sell at 4 cents per bushel. Estimates will be given for any description of Chemical Manures that may be required. Engaged in chemical manufacturing for thirty years, he feels confident of giving satisfaction to those who may favor him with their orders. All letters asking information must be post paid.

JOHN BARLING, foot Jane-street, Greenwich.

New-York, April 28, 1843.—6t